# Gleanings in Bee Culture

Created to help beekeepers succeed

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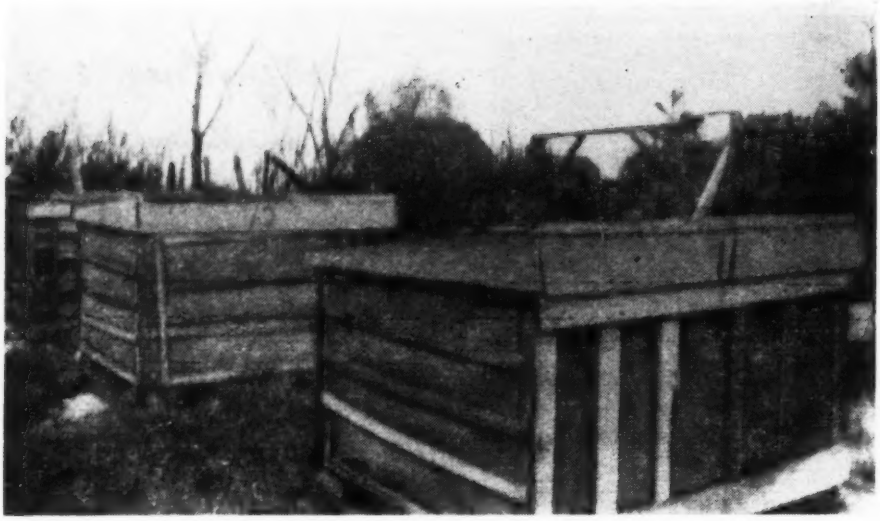
## Wintering in Quadruple Cases

By Warren Sadler, Mossley, Ont., Canada.

Bees packed and ready for a severe winter.

I caught the bee fever in August of 1908. The germs must have been carried in two stray swarms I captured that summer and hived in home-made boxes with two sticks across inside near the top. I didn't know just what the crossed sticks were for, but it seemed the best idea I could get from the old experts who had kept bees for "yars and yars" as to what bees needed to make a success of the bee business. But being inquisitive, I spent many hours lying on the ground behind one of those box hives, squinting through a crack, trying to see what was going on in there. I still remember a very vicious jab on the nose I received from a bee that was inquisitive about what was on the outside of that split board looking in. I quit looking in **there** from then on, but the germs were still in my blood and not knowing any better, I bought twelve colonies of bees in September that same year, and figured I had found the anti toxin or antidote, but really I only made the trouble worse, and it has never left me in all the 40 odd years since then. I have never been out of bees, or out of problems to solve, or out of enthusiasm.

There has been at least **one** big

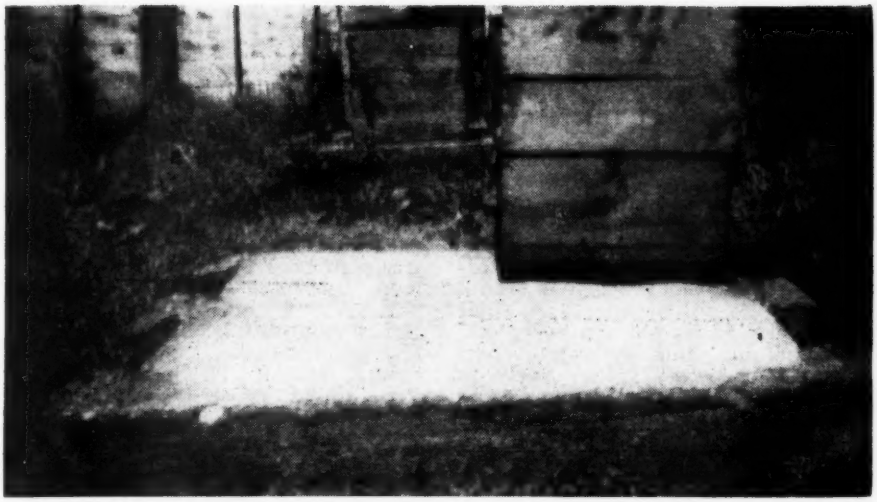


Close-up view of the quadruple winter cases.

problem to solve as cheaply as possible every few years. That problem has been how to winter. After trying various ideas that did not satisfy me, I met Jacob Alpaugh, and I learned that he had developed a four colony winter case and a system of management to go with it. This winter case which still goes by the name of Holterman quadruple, was really invented by Mr. Alpaugh, and later adopted by R. F. Holterman who wrote, and spoke at beekeepers' meetings much more than his teacher ever did. But I think this has all been threshed out in the bee magazines over the years, and I can safely go on to tell how I have adapted the case to my particular circumstances, and I think, too, have improved on the idea from the standpoint of economy of cash, material, and labor, without hurting in any way the case's capacity for good wintering of bees in our kind of winters.

About the winter of 1917 I changed from cellar to outdoor wintering using the Alpaugh four-colony grouping on the same stand the year around. I got results, almost perfect wintering, with early packing in the fall and its protection all through the bad, bad month of April which here is the time when wintered-over bees usually die. I packed in early September and set the bees out of their cases in May, just before fruit bloom. I have tried to have heavy colonies in two-story hives and pack them in the fall with five inches of leaves or planer chips on the sides, and eight or ten inches over the top, and barring queenlessness or granulating stores, the colonies have been in grand condition every spring.

But as time went on and my liking for hand labor grew less, I began to consider how I could improve the method without changing results. The first thing I improved was the hive stand. Alpaugh's stands were built of lumber about one foot wide with two strips in the center lengthwise to hold the four colonies with entrances facing two east and two west, or if one feared mixing of bees the stands could be alternated so the entrances faced North and South in one group and East and West in the next, and so on. But to me, the trouble was the ever-recurring job of lifting off four heavy two-story hives every fall, putting the case floor on, and then lifting the hives back on — and spring coming before my back got better. I had to reverse the lifting job — off again (not so heavy, but plenty), on again, and away the bees would go to build up a lot of weight for next winter. So I built cement stands that so far have been perfect, and the bees never have to be lifted. No case bottom to bother with and the stands have now been in use perhaps 15 years and are as good as ever. They are not expensive, two sacks cement, necessary gravel, and



**The cement stand which does away with the case floor and lifting of heavy colonies.**

a few hundred tin cans or glass bottles or other junk for filler. The entrance notches allow dead bees to be carried out to drop clear of the hive entrance, and no wind can blow into the hive entrance either. When four strong heavy colonies are shoved close to each other on these stands, the entrance cover boards dropped into place, case sides and ends set up on the stand, one bolt in the center of each corner inside, tightened up, packing poured in, and case cover put on, I feel pretty sure that four strong colonies will be there the next spring when I go through the reverse motions. If that is the essence of good beekeeping, I have accomplished it the easiest way.

**But another trouble cropped up**—the cases cost too much. Factory-made (which I never could indulge in) the Holterman case is now priced around $30.00, and even 20 years ago, the lumber to build them at home cost more than I had to spare. It is perhaps true the cases should last many winters, but they had to be stored over summer and it seemed to me that perhaps $5.00

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**The case covers make a good summer windbreak.**

# The Native Bee of the Vermont Highlands

**By Robert M. Mead, White River Jct., Vt.**

The honey bee of the Vermont mountains that I call native is of course an imported bee but that is so very many bee generations ago, in fact, so many years ago, that it can be almost ignored.

The old records are not very clear. Were there bees in the Vermont highlands in 1750? Or would it have to be a little later? All that can be proved is that the early colonists along the Atlantic coast brought over bees rather early in our history. Escaped swarms from these became the wild bees of the forest and as such they spread rather quickly over much more territory than the colonists themselves occupied.

Whatever they were when they came to this country (some records insist they were German Black bees, other records that they were Dutch Brown bees) it is certain that they have been greatly modified and refined by the process that man calls survival of the fittest. What nature has been able to do as a breeder of bees makes these bees of more than casual interest to today's breeders.

In the lowlands a man could feed his tame bees or give them some protection from the cold winds of winter but the wild ones knew nothing of the meaning of mercy. Man always hunted them and cut their tree homes for whatever was in them; a few quarts of honey or a hundred pounds—it made no difference. For those that men did not find there was the very real problem of mere existence. There were the poor seasons when there was too little rain, or too much, or the cold winds blew a few weeks too long. Bear did occasionally tear one of their hollow trees to pieces or the ever present deer mice moved in with them when cold weather came, destroying their precious combs.

Usually however, it was the moods of nature that plagued them, instead of animals. We like to think of nature in her lavish moods: the glory of a fine harvest, a perfect day, the blessing of rain, or the sheer vitality of some wild animal. But nature can also be relentlessly cruel. She can pile on the days of drought when the streams are already low and the days of famine when the deer and fox are already gaunt with hunger. For the bees she some times followed seasons of poor honey flows with the most vicious of winters. Only the strongest, the most adaptable, survived and out of nature's crucible came a strain of bees that were miles apart from the babied tame bees of the valleys.

The mountain bees worked in lower temperatures, gathered more honey, swarmed less because swarming divided the strength of the colony. They used less honey in the winter and built up faster to full strength in the spring. They did this because only those that followed the pattern that nature dictated, survived. There was no mercy for the weak ones except the death that nature hands out to all her weak ones so that their kind may not multiply their misery. In the end these bees were as rugged and distinct as the steel from the furnace of some master steel maker.

I have been studying these bees for a lifetime and some of the qualities I have attributed to them are very real, not the products of my imagination. The old master bee hunters, most of them now dead, used to tell me that the black bees of the mountains had honey; the yellow bees of the valleys had brood and comb. And that was true. We cannot attribute knowledge to a bee in the same sense that we attribute knowledge to a college professor yet these mountain bees had knowledge, or if you will, inherited instinct, that told them when to rear brood and when not to. As the short mountain summer reached its peak the blacks stopped brood rearing and used the last fall flows to bulge their combs with stores. The yellow bees, the Italians, the well bred bees, kept right on brood rearing, using up their stores and what they brought in and perishing, unless there was a beekeeper around to correct their mistake.

They flew at lower temperatures, a tremendously important factor in the higher altitudes where the cold winds hold on late and return early in the fall. They still do just that. Clyde Wood, President of the Vermont Beekeepers' Association, has a strain of bees based on the old

mountain bees and I have seen his bees coming in with pollen day after day when it was just a couple of degrees too cold for my Italians to fly.

I have mentioned the swarming factor. Of course they do swarm some or they could not propagate in the wild. But they do not swarm themselves to pieces. They build a few cells, throw a prime swarm but hardly ever the tiny afterswarms of other races.

**The mountain bees are aggressive.** By this I do not mean ugly although they are not so pleasant to handle as well bred Italians, Caucasians or Carniolans. Some call them peppery. But what I mean by aggressive in this case is that they go to work as though they meant business. They gather two supers of honey with less fuss than another swarm may make about gathering one. They may seem like a small swarm in the spring but by the time the honey flow starts they are there with a force of workers to do the job.

Without the scientific evidence to prove it I will still claim that they live longer than most races of bees building up to good strength with less brood area than is required by their better bred relatives. I have bought queens of many races and many strains including the hybrids but the best comb honey bees I have yet are those containing a large percentage of the mountain bee blood.

Now all this is not meant to run down the many fine strains of bees and hybrids on the market today. I have told it because to me it is tremendously interesting. I realize full well that the various queen breeders of today are doing a fine job that produces great commercial strains of bees and that as time goes on will produce still better ones. But at times I think these queen breeders with all their scientific knowledge and scientific instruments might pause for a minute and be a little humble in the face of nature who produced her own strain of bees and did a very fine job at that.

## A Visitor from Japan

On September 17, Gleanings was honored by a visit from Dr. Tsutomu Watanabe, Bacteriological Institute, Medical School, Keio University, Tokyo, Japan. While Dr. Watanabe has an M. D. degree, he is not a practicing physician.

In general, there are two classes of honey bees in Japan. The native bees, slightly smaller than Italian bees, are not now found in commercial bee yards. The larger beekeepers depend on Italian bees and others which they import from Great Britain and Italy.

There is a difference in the honey flora between the North and South of Japan, somewhat as there is in the United States. Members of the clover family are found growing mainly in the North.

With the signing of the Japanese treaty, the necessity of now becoming again a good neighbor to Japan, is all important.—H. H. Root.

Dr. Watanabe and M. J. Deyell.

# Ultraviolet Light as an Aid in Diagnosing Brood Diseases of the Honey Bee

By A. S. Michael

United States Department of Agriculture, Agricultural Research Administration, Bureau of Entomology and Plant Quarantine

Laboratory identification of brood diseases of the honey bee consists essentially in a careful microscopic examination of any dead brood remains in the cells of the brood comb. Scales, which are dried remains of dead brood, can usually be seen clearly if a comb is held so inclined that direct light falls on the lower side and bottom of the cells. If there are no scales or dead brood in any form in the open cells, any sunken, discolored, or punctured cappings are removed and these cells examined for dead brood.

However, many samples of comb in which brood remains are difficult to locate, are submitted for laboratory diagnosis. Dried larval scales take on a brown, dark-brown, or almost black color, which closely approximates that of older brood comb. When larger pieces of scale or intact scales are present, this similarity of color is not too serious. A careful observer can locate the scale material. However, in older comb containing small bits of scale material, crushed comb, or comb overgrown with mold or infested with wax moth, it is very difficult, if not at times impossible, to locate the scale material. Undoubtedly many cases of diseased brood have not been diagnosed because the brood remains could not be located.

An extremely simple and rapid method of locating scale material for diagnosis of American foulbrood, European foulbrood, parafoulbrood, and sacbrood in these more difficult samples has been devised, based upon the fact that scale material will fluoresce when exposed to ultraviolet light, whereas the brood comb will not. A striking contrast is obtained between the scales and the comb, revealing immediately the presence and location of scale material if present. Particles of scale material smaller than the head of a pin have been located and recovered, even from crushed brood comb.

For the purpose of obtaining this fluorescence, the most effective radiation is the long-wave ultraviolet or near-ultraviolet light of wave lengths between 3100 and 4000 Angstrom units. An inexpensive but excellent source of near-ultraviolet light, such as the argon glow lamp, can be utilized. This lamp does not require an accessory filter, because it produces only a small amount of visible light. A porcelain socket is necessary, owing to the high temperature attained by such a bulb, and a suitable reflector should be used, both for protective purposes and to project the light directly upon the material being examined. Although an argon glow lamp can be used satisfactorily, it does produce a low intensity of light.

A more intense source of near-ultraviolet light which will give greater contrast between the scales and brood comb and therefore permit more rapid location of material, can be obtained with a mercury arc lamp that has high-radiation characteristics in the visible and both the short-wave or far-ultraviolet and the near-ultraviolet portions of the spectrum. The far-ultraviolet and visible wave lengths not desirable or very effective for exciting fluorescence are eliminated by use of filters that selectively absorb these wave lengths and transmit an intense near-ultraviolet light.

One lamp recommended for this work consists of a small, 100-watt, type-H quartz mercury arc surrounded by a mantle of filter glass that absorbs the visible and far-ultraviolet light including the tanning and bactericidal rays and rays that cause conjunctivitis. Therefore, this type of lamp is comparatively safe to use, with little or no danger of overexposure or bad effects on the operator.

Lamps of this type are available commercially and are often designated as "black-light outfits." They consist of a transformer, a reflector, and a quartz-mercury arc bulb surrounded by a mantle of near-ultraviolet filter glass. The bulb is mounted in a reflector and may be aimed in one direction or moved easily about in any direction. The transformer operates on any 110-115-volt alternating current.

Although the fluorescence obtain-

ed with a mercury arc lamp can be observed in an ordinary room not too brightly lighted, a dark or semi-dark room is preferable for utilizing this method of locating scale material for diagnostic purposes. If a dark room is not available, a satisfactory arrangement can usually be obtained by installing dark curtains to exclude most of the visible light.

The location of dead brood or scales is accomplished by simply exposing the suspected comb material to the near-ultraviolet radiation. Excitation by the argon glow lamp causes the scale material to emit a greenish fluorescence, whereas under the more intense mercury arc lamp the fluorescence is a light buff color. Removal of very small bits of loose scale material can be facilitated by moistening the tip of a platinum needle before touching it to the material, which will then adhere to the tip of the needle. The particle obtained is then transferred directly to a glass slide in preparation for microscopic examination.

Other materials commonly encountered in brood comb—such as honey, pollen, and normal larvae—also exhibit varying degrees of fluorescence. However, the type and color of fluorescence emitted by these materials, and also their gross appearance, easily differentiates them from the scale material.

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## Top Entrance for Bees

**By H. M. Snavely, Woodbury, Penna.**

For a number of years I have used as a top entrance in two-story hives a small hole bored in the front of the hive. I use a $\frac{5}{16}$-inch bit and then use a cork to fit the hole when the opening is not wanted, or when the hive bodies are reversed. The corks to fit a $\frac{5}{16}$-inch hole can be purchased at most hardware or dime stores. This method is very simple and costs very little, and I have found that it will eliminate moldy combs during the winter and also provides sufficient ventilation as well as an escape for excess moisture.

When the hive bodies are reversed the cork is put in the bottom hive and the top one left open. The top can be left open all during the summer. By having it off to one side and just below the telescope cover it does not interfere with the handling of the hive. If the hive-bodies are used for extracted honey production and a bee escape is used the cork must be in place to prevent robbing.

# Jamaica Beekeeping Fifty Years After

**By Geo. W. Phillips,**

**Saratoga, California**

**Sunset on the Caribbean.—Then it was "Red sails in the sunset." Now it is "Wings over the sea."**

[Dear Mr. Deyell:

You have suggested that to the article following I should add "a short preface, covering your coming to this country and your association with the A. I. Root Co." The following is rather sketchy but will, I think, meet the requirements.

The year 1902 found me in possession of three well equipped apiaries—about 600 colonies. In August of that year I left these in the competent hands of men I had trained, and emigrated to America. As you may imagine, this violent reorientation of life was not easy. For this move there were two main reasons: First, a dismal drop in the price of honey. As long as I could get three cents a pound at the apiary for honey I could operate at a small profit. When the price dropped below that we were lost. But there was in the background another reason: the desire for a college education. In Philadelphia, where I landed I could find no immediate employment, so as a venture, I wrote to the Root Co. telling of my bee experience and asking whether I could find a position in Medina. Mr. Boyden replied that the head of the Apiary department, Mr. Wardell, considered resigning. If I wished to take a humble role in the apiary that would give the Root Co. a chance to size up my ability and see whether or not they could use me when Wardell resigned. So forthwith to Medina I traveled. Evidently I gave satisfaction for upon Mr. Wardell's retirement in the spring of 1903 I was given charge of the Root queen-rearing enterprises. A glance at the back numbers of GLEANINGS for that period will show that I was also a regular contributor to its pages. With Roots I remained three summers and after that entered collegiate halls. During this time I gave Mel Pritchard his start and during this time made happy contacts with my namesake, Dr. E. F. Phillips, who conducted many of his scientific experiments in our Medina yard.

Although 44 years have passed since I left Roots for college there has ever existed a feeling of gratitude toward the Company that so generously extended every courtesy and consideration to the unknown and rather lonely immigrant lad.—GWP.]

Tennyson wrote his great poem, "Locksley Hall"—a poem I commend to every lover of literature and of philosophy. After the years had run their courses Tennyson wrote in sequence another poem: "Locksley Hall, Sixty Years After." After more than half a century to me it was permitted last summer to move again amidst the environments where began my early experiences with the honey bee. Geographically the same world; and yet how different! Not 50 but at times hundreds of years seem to have stretched between that distant day and the summer of 1950.

The very method of transit gave emphasis to the evolution of things. In a sailing vessel it took my father nearly four months to travel from his Bristol home to Savanna La Mar, Jamaica. I flew; and I made a flight of approximately the same distance in less than 24 hours.

To paint the present picture I must first put in the background. How, anyway, did I happen to enter the field of apiculture? Necessity I think. Ours was a large family and I the eldest of eight. In my 19th year my father died. Adequate positions for such as me were few and since inclination turned that way, I ventured into beekeeping as a means of livelihood. I suppose you would say this decision was "sparkplugged" by a chance lecture given by an American transcient who spoke under the auspices of the local agricultural society.

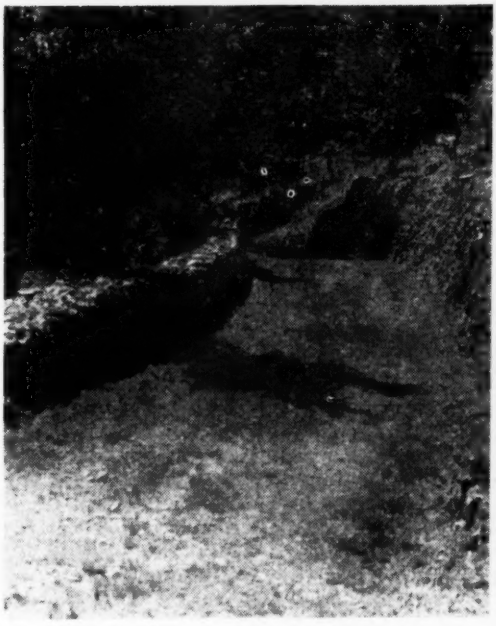
**Those days of beginnings will be of interest to the modern beekeeper.** My knowledge of apiculture was exactly zero. No one to advise and,

at the start, no books. From a concern in Kingston, Jamaica, 150 miles away, I obtained a three-frame nucleus. When it arrived I didn't know what to do with it. I had no hive, had never seen one, and supposed the traveling box to be the permanent home of my new arrivals. But how? The top end was covered only with wire. What about the rains? Couldn't leave it gaping to the skies. So I turned it bottom side up and

**Boyhood's Home — Above the roof note the palmtree where bees made music in the night. See text later.**

wrote asking if this procedure was correct. The answering letter told about hives and frames. But where to get them? Luckily I found one discarded Langstroth hive with ten thin-topped unspaced frames. It happened a local planter once had the "fever", tried one colony and failed. So I bought the old hive, cleaned up the frames, painted the body, studied the mechanics of the thing, and without smoker or veil but with some rotten wood smoking in a pan, managed to make the transfer. Right side up this time. Nucleus frames were carefully scanned and transferred. Luck—there was the queen. And that was my beginning.

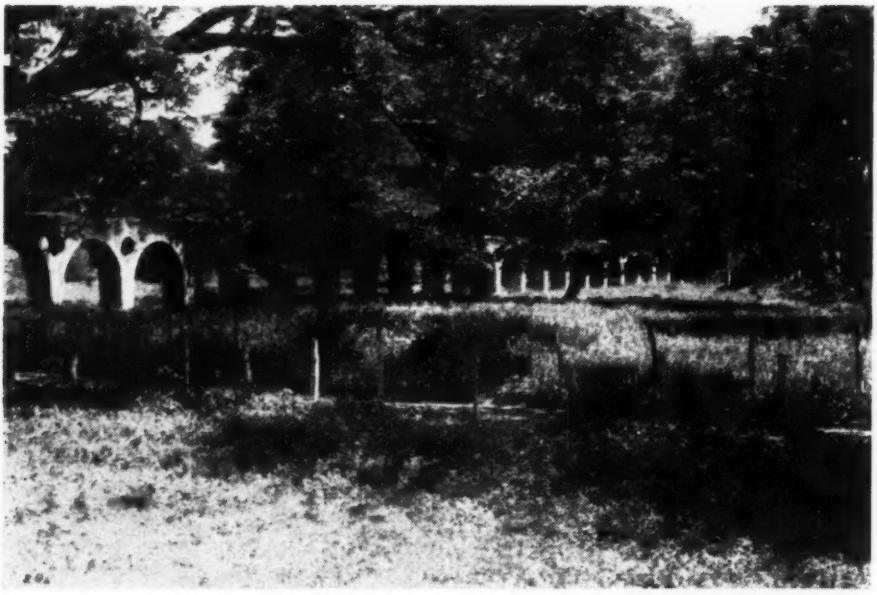
But I must learn. From Harper Brothers, a firm in Kingston, I ordered the "ABC of Bee Culture." Later on Doolittle's "Scientific Queen-Rearing" and then "Gleanings". I devoured everything I could find and started to practice what I had read. In three months I was attempting to rear queens, Doolittle method.



**Along these mountain roads three men with honeyed hives upon their heads and a boy with swarms hanging on bicycle handlebars.**

But I run ahead of my story. After stocking up with hives and frames then came the procurement of bees—black bees. And there what a story could be told! Imagine three sturdy native lads descending some miles of mountain road, a ten-foot plank reaching across from

**In such an environment as this would you enjoy an apiary? The trees are allspice, orange, breadnut.**



Ancient aquaduct. In this region lignumvitae and some reminiscent logwood.

head to head and on that plank six or more soapbox colonies heavy with honey. It is night and the road is none too smooth and the bottoms of the boxes are wide open. No wire. Imagine a crawling bee now and then making its exploration down a shirt sleeve. But no man dares let go! . . . .

Or imagine a lad of 19 (myself) riding a bicycle five miles down the mountains with four covered baskets lashed to frame and handlebars —four baskets full of gathered swarms, bees rattling around like so much shelled corn and corn that buzzed betimes!

**Well, the apiary was established,** some 300 colonies—blacks all. Next, to Italianize. One breeding queen was purchased—a golden. As it turned out her bees were tremendous honey gatherers and the most vicious customers I ever handled. From her 300 fine laying queens and almost every one mated to a black drone. Those days they talked about Coggshall's fiery brood of bees. Believe me, those early hybrids of mine would have made Coggshall's look like gentle butterflies.

With increasing colonies apiary help became a problem—for in addition to my own bees I at this time undertook to manage 600 colonies for a neighboring planter who had also started beekeeping. I selected and trained some ten native lads. They were fine workers, dependable, and rapid learners. Soon they were grafting queen cells and operating nuclei with the finesse of experts. That was in 1898. Keep these lads in mind—you will meet them again—some of them—"fifty years after."

The locale of this story is the Parish of Westmoreland, Jamaica, and in this Parish my ten trained lads and I were the pioneers of modern beekeeping.

More than half a century after, I made my aerial flight to those early haunts to find—what?

First, a changed floral environment. Since those distant days I have witnessed beekeeping in many, many different regions but if one were to ask me for a beekeeper's paradise I should say, Westmoreland, Jamaica in the 1890's. In imagination, stand upon a knoll and survey 25 square miles of George's Plain—one vast sheen of golden yellow logwood blossoms. The fragrance of those blossoms is beyond description. I recall a merchant friend driving in his carriage at dawn along the Petersfield Highway and greeting us with the exclamation, "Heaven must be like this!" Imagine an apiary of 350 colonies, imagine skies resonant with the mu-

**Showing luxuriance of tropical verdure. In spots left untroubled wild flowers disport. In the background of this picture a young logwood tree.**

sic of a myriad wings—music unceasing from silver dawn to golden sunset. And the honey yield!—I recall two 16-frame colonies side by side each yielding a barrel and a half—over 600 lbs.—of almost water white extracted honey.

But alas and alack, the days that are no more! Logwood as a dye has given way to the synthetic dyes, and I found more than one planter seeking a way to destroy entirely the remnants of volunteer logwood growths. Instead of logwood, have come sugar cane and bananas. From sheer sentiment my brother tolerates a few trees on his estate. The reminiscent odor of logwood blossoms at Christmas time he finds pleasantly nostalgic.

**Yet on the island some logwood still remains,** growing in unmolested corners and in the vicinity of a certain factory where a comparatively small amount of dye continues to be extracted. And what is true of logwood is partially true of some lesser honey plants. Intense cultivation of sugar cane and of bananas has changed the floral environment.

To assume, however, that commercial beekeeping on the Island is no longer feasible would be incorrect. Citrus and other fruit and lignumvitae and Spanish needle and other honey yielding weeds and bushes disport with tropical luxuriance. The blooming campanile vine adorns the hedges in December, the "fee-fee" also.

Then there are many varieties of palm. For example, large cocoanut plantations spread across the north and southeast portions of the Island, and while I have no personal experience as to the yield from cocoanut, judging from the music of bees in the palm boughs, I imagine the cocoanut to be a good honey source. Besides, the bloom there is continuous. With one lone palm-tree, a variety of Royal Palm, growing beside the old home (see picture No. 2) I had quite an experience.

On an August evening I arrived there and after the overland trip from Mandeville retired early and was soon in the realm of dreams. It seemed in my dream the years had rolled back. I was again in the apiary and around me swelled the music of flying bees. In louder crescendo rose that music. With a start I awakened. No dream. It was real. In the warm pre-dawn I ran outside following the direction of the sound. The stars still shone, but there amid the palm boughs I heard a riot of wings as of bees swarming. Heard but not seen for it was too dark to discern the bees. So I returned

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# L. L. Langstroth

**By E. F. Phillips**

Excerpts from an address at unveiling of plaque in South Church, Andover, Massachusetts, July 22, 1951, read by George Rea.

**Rev. L. L. Langstroth**

Lorenzo Lorraine Langstroth was a good man, but the world is full of good men and we cannot honor all of them. He was a great man, of high mental attainments, and his goodness and his greatness were inseparable. He was a benefactor and it is as a benefactor that we today honor him. His life work has touched intimately the lives and fortunes of thousands upon thousands of people many of whom are unfamiliar with their indebtedness to his labors. It is 100 years this year since his first great contribution was made, and the turn of the century makes this an appropriate time for us to express our gratitude.

Mr. Langstroth's experience with honeybees began in Andover. In the summer of 1838 he saw a glass globe filled with honey comb on the parlor table of a friend. This led him to visit the bees, kept in an attic chamber, and before leaving he had bought two colonies in common box hives. His boyhood enthusiasm for insects flamed up and he began his beekeeping experience with enthusiasm. When he left Andover to go to Greenfield, he probably did not take his bees with him, for he records that one of the first things that he did in Greenfield was to buy a colony of bees in a hollow log.

There he increased his colonies, searched the neighborhood for beekeepers from whom he might learn the skills of the craft, but had little of the literature on the subject. His work in Greenfield was to conduct a high school for girls, and that did not leave him much time to devote to the bees. He also frequently occupied the pulpit of the Second Congregational Church and for two years was its pastor.

One of the significant phases of his stay in Greenfield was that he came to know Mr. W. W. Cary of Colraine, the first beekeeper of a line of Cary beekeepers of importance in the State and in broader fields as well. Later when he decided to devote his entire time to beekeeping, he returned to Greenfield, perhaps largely because it would renew his association with Mr. Cary, on whom he leaned heavily.

But once more ill health broke up his plans, and in 1848 he resigned his pastorate and went to Philadelphia where he opened a school for young women. Philadelphia was the scene of his most rapid growth and greatest accomplishment in which he considered his secondary field but which became the one of most significance. He took a house at what is now Sixteenth and Chestnut Streets, right in the heart of the present city, and developed quite an apiary on an upper balcony. The next year he moved the bees to West Philadelphia, across the Schuylkill River, to the area now occupied by the University of Pennsylvania. To indicate the nature of the problems with which Langstroth was faced and some of the ways by which he sought to solve them, it is necessary to discuss certain details of the bee hive without an effort to make beekeepers of all who may listen.

When bees occupy a cavity they build several combs parallel to each other. Langstroth and many before him had sought ways whereby the individual comb might be handled or removed, in order either to conduct investigations or to carry out

practical measures of control. The great Swiss investigator Huber had built a series of frames with a comb in each one, hinged together so as to be opened like a book, and with this arrangement he was able to learn much of the behavior of the colony. Later others tried to put the Huber plan to practical use, but without success. Langstroth was one of them.

The British bee master Bevan used a box to shelter the bees and attached each comb to a bar suspended at the top of the box. Others had tried the same plan earlier, and unknown to Langstroth the great Polish beekeeper Dzierzon had devised a bar hive with a door at the rear. By opening the rear of the hive he could cut the attachments of the hindermost comb from the hive sides and remove it, and thus work forward to the comb that he wished to reach. It was a slow process, but Dzierzon's skill was such that he made it work and was able to teach others to use the plan.

Langstroth obtained a copy of Huber's work and also the second edition of Bevan, and tested out both types of hives. Langstroth saw the need of a hive opening at the top so that all combs might be seen at once, but such a hive increased the problem of separation of the comb attachments on the hive sides. Furthermore Langstroth saw that it was urgent that the hive be increased in size at some parts of the year, and the best place to put additional comb space was above the combs used in winter. But when he placed a second story over the first, using the bars devised by Bevan, the bees stuck the two hive parts together so firmly as to make separation difficult or impossible.

To overcome this single difficulty, he tried the plan of lowering the bars a short distance, the space selected happening to be ⅜ of an inch. To his joy he found that the bees did not build in this small space, nor did they glue it shut with propolis or bee glue. During the season of 1851 he had all his hives arranged by this new plan, and he derived satisfaction from the greater ease with which he could work with the bees. Before the close of that summer he had decided to apply for a patent on this lowering of the bars, since he considered it a great foreward step in hive construction. There still remained the desirability of a method either of more readily clearing the combs from the side of the hive or of preventing attachment of combs at these points, and this problem had not yet been solved by Langstroth or others. His solution when it came was spectacular.

Having spent the day preparing his colonies for winter, he drove back to his home in the city, pondering how he might have combs freely movable. Suddenly it came over him that if a space above the frames was not filled by the bees, the same would be true of a similar space at the end of combs. He immediately envisioned a freely hanging frame, each suitably spaced from the others. His own statement of his reaction to this flash of genius is as follows: "Seeing by intuition, as it were, the end from the beginning, I could scarcely refrain from shouting out my 'Eureka' in the open streets."

Visiting him at that time was his old classmate and good friend, Rev. E. D. Sanders, who later founded the Presbyterian Hospital in Philadelphia, and who was much interested in Langstroth's work with bees. Late into the night these old friends discussed Langstroth's discovery, speculated on what it would mean to beekeeping, each stimulating the imagination of the other.

After Sanders had retired, Langstroth took down his journal in which he recorded his beekeeping efforts, and under date of October 30, 1851, he recorded the entire concept. He drew sketches and wrote a description of the frame as he visioned it that day, and this valuable record is one of the many Langstroth treasures in our beekeeping library.

It was then too late in the season to put his discovery to the test of practice, but he did not stop studying the idea and developing the ways by which it would assist in beekeeping practice. On several days that autum he records in his Journal further ideas and plans, and his faith in the idea was so unshakable that during the winter he arranged to have bars made for changing over all his bar hives into frame hives.

That winter he developed plans for a new beekeeping and set down point by point the things that the beekeeper could now do which had previously been impossible. The thing that must impress those of us of a later day was that Langstroth's experience with the bees was such that when the new idea came to him, he was able without hesitation



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to proceed with plans for its development, never hesitant for fear that it would not work. It is a fine example of what logic will do, if one is entirely sure that he has all the facts at hand which will affect the results.

The dramatic aspects of the discovery did not cease with the first day. The following spring he had the wooden pieces ready for making his hives over into movable frame hives, and assisting him was a beekeeper and skilled cabinet maker, Henry Bourquin, who took over management of the West Philadelphia apiary. While they were at work on the somewhat difficult task of changing over the hives, on the first day warm enough for such work, an old beekeeper friend entered the apiary, but Langstroth was so engrossed that he did not detect his presence. Finally his guest shouted out, "Friend Lorenzo, you are so taken up with your new hive that you seem unable to hear me, or to see anything else. No doubt you think that you have made a great invention; but I say you have made no invention." The last words he repeated several times, "You have made no invention." Then he resumed by saying, "Friend Lorenzo, you have made no **invention** at all, but, rather, a **perfect revolution** in beekeeping! You have got what I have so long wished for — that control of the combs of a hive, by which you can at any time know the condition of your bees; and, if anything is wrong, be able to apply the proper remedy."

The use of the Langstroth hive increased in the United States and Canada with great rapidity. Before long this system had been extended to other shores and long before Mr. Langstroth's departure the movable frame hive became standard equipment of progressive beekeepers throughout the entire civilized world. This is not the occasion to undertake a history of this development except to indicate that as the door to the beehive was thrown open, beekeepers everywhere were stirred to new activity in devising systems of management which would make the work of the beekeeper of greater helpfulness to the activities of the bees themselves. By the use of these systems, devised and developed by beekeepers in the apiaries, honey crops were increased, beekeeping became more profitable, and before Mr. Langstroth's death, beekeeping had become a recognized branch of agriculture throughout the world. From all of this he profited financially almost not at all, but evidently from his writings he had great satisfaction in observing the advancement which came about as a result of his labor. There were several trying incidents associated with the promotion of his new system, in which various beekeepers tried to belittle his accomplishments and to take credit to themselves for things in which they had had no part.

Shortly after Langstroth's discovery, he began making plans for the introduction of his new beekeeping methods and decided to sell his school and return to Greenfield which he thought to be a more favorable place for the work ahead of him. His devoted wife remained in Philadelphia as a teacher until he could become established in Greenfield and for the following six years they were separated except for brief visits back and forth. He at once decided to write a book to set forth his new methods and this classic work was published in Greenfield in May 1853 under the title "Langstroth on the Hive and the Honey-Bee: A Beekeepers' Manual". Meanwhile he developed an apiary of considerable size and worked in close cooperation with Mr. William W. Cary of Colraine, who adopted the newly developed Langstroth system. During this period he occupied the pulpit of the church in Colraine on many occasions. He meticulously recorded his observations in his journal which is now the most prized possession of the beekeeping library at Cornell University.

Aside from two revisions of his book and occasional reminiscent articles in bee journals, Mr. Langstroth's writings were few. The articles which he did write show a keenness of reasoning and a mental alertness which are conspicuous in every written record that he left.

In 1860 Mr. S. B. Parsons, Flushing, Long Island, was successful in introducing Italian bees into the United States and at his invitation Mr. Langstroth spent considerable time in Flushing rearing Italian queenbees and distributing them to interested beekeepers. This was his second great line of attack on improving conditions of beekeeping in this country. In this introductory work he again was greatly assisted by Mr. Cary of Colraine.

After the death of his wife Langstroth made his home with his daughter Mrs. Cowan. The family moved to Oxford, Ohio and their residence in Oxford still stands on the campus of a women's college. Here he continued his work of rearing Italian bees and records at great length in his journal his extreme difficulties in rearing queens before the modern methods had been developed. A very considerable portion of his journal is devoted to his experiences in Oxford. Unfortunately not all of his record is yet freely available because Mr. Langstroth's handwriting became exceedingly difficult to read and it becomes necessary to transcribe that portion of the journal word for word after laborious study to determine exactly what he was recording. During all this time there were increasingly numerous occasions in which he was incapacitated by illness and while suffering from recurrent attacks he would have nothing to do with the bees.

From what has been said of Mr. Langstroth's work with bees, it should be clear that his observations were made on a plane of high scientific accuracy. The conduct of scientific work implies without exception the ability to question every result and to be dissatisfied until the evidence is so abundant that a conclusion becomes inevitable. This trait Mr. Langstroth manifested in all his bee work for the entire period of his activity in the field. In marked contrast to this doubting attitude, we place over and against it his never waivering adherence to his religious faith. Having once accepted what was to him the final answer to the problem of his faith, we have no indication that from it he ever wavered.

**Of the Same Opinion Still**

**The gentleman is trying hard to convince the lad that bees won't sting but the picture plainly indicates that the lad is not convinced. If more youngsters were introduced to bees early in life there might be more young people interested in bees than at present. Our industry needs more young beekeepers.—Photo sent by Grady E. Gant, Chattanooga, Tenn.**



XUM

# Breeding Improved Honey Bees

## V - Production of Hybrid Queens

By William C. Roberts and Otto Mackensen
U.S.D.A., Agr. Res. Adm., Bureau of Entomology and Plant Quarantine*

Every commercial queen producer has his own system of management. Just what system will produce the best quality queens at the most economical cost is not definitely known. Having been engaged in the breeding and testing of bees for a number of years, we have naturally tried many methods. Herewith we will describe the method that we use for producing large numbers of hybrid test queens at the Kelleys Island, Ohio, mating station. We use this method because we have found that it produces the largest proportion of good queens at the most economical cost of any method we have used.

In testing stocks we, of course, must have environmental factors of queen rearing as nearly constant as possible and must also attempt to produce queens of the highest quality. In order to measure genetic differences we must create an environment that will permit the genetic potentialities to be expressed to their fullest extent.

We begin to prepare for queen rearing in the fall. Six months before we intend to make the first graft of queen cells we requeen every colony on the island with queens from which we desire drones the following year. Let us call these queens hybrids (1 x 2), produced by crossing inbred lines 1 and 2. Into every colony we introduce a (1 x 2) hybrid queen. Since the island is isolated and every colony has a (1 x 2) hybrid queen, we will have control of the drone population the following year. We clip all queens and mark them so that they can be identified and found easily.

All colonies must have ample populations of worker bees to winter properly and build up rapidly in the spring. They must also have enough honey properly organized for wintering plus plenty of reserve for build-up in the spring.

Our colonies are in square hive bodies. Each hive body holds 12 frames of the Dadant shallow size. We winter each colony in four hive bodies. When ready for winter, the colony has a (1 x 2) hybrid queen, a good population of young bees, 70 to 80 pounds of honey, and several frames of pollen. The bottom entrance block is placed in the entrance with a ¾-inch opening for a lower entrance. A 1-inch auger hole in the second hive body from the top gives an upper entrance near the location of the winter cluster of bees. Colonies prepared in this manner in the fall need little, if any, attention during the winter.

About March 15 we check the colonies for queens, brood, honey, and pollen. At that time most of the cluster of bees and the brood nest should be in the top hive body. If not, we reorganize it so that supplemental feeding of pollen cakes can proceed in an orderly fashion. We give the colonies 1 to 1½ pound pollen cakes by placing them on the top bars between the frames and the reversed inner cover. We give additional pollen cakes as needed—one every week or 10 days—until the supply of natural pollen is adequate. We usually have to feed pollen cakes until about May 10, or the beginning of apple blossoming.

When we give the third pollen cakes to the colonies, we add a drone comb to the brood nest. The colonies get an additional drone comb with the next pollen cakes. All swarm-box and finishing colonies get two to four good drone combs, and they remain part of the brood nest throughout the season.

From the four to six frames with brood on March 15 the colonies should expand their brood nests to about 20 frames with brood on May 10. As soon as the colonies have brood in two hive bodies, we interchange the upper two bodies so that the brood nest can expand rapidly. When the brood nest expands to the three hive bodies, we interchange the top and bottom bodies around the middle hive body with brood. At about that time we are ready to begin queen rearing.

In our operations we plan to make our first graft of queen cells about May 10. To insure prompt matings it is necessary to have adult drones in the hives when the first graft of queen cells is made. To have adult drones on May 10 we must have drone eggs on April 15. Thus we give our colonies drone combs about

*In cooperation with the Wisconsin Agricultural Experiment Station and Louisiana State University.

April 10 with the third round of pollen cakes.

Drone combs are very important in our operations. We inspect them every time we work the colonies. We never allow them to be shoved outside the brood nest or to be filled with honey. We have a standing rule that when we cannot find plenty of drone eggs, larvae, pupae, and adults, we stop all work and put these good dark drone combs in the middle of the brood nests so that the queens will fill them with drone eggs. One has to run low on drones only once to find out how valuable they are in queen production.

For starting queen cells we use a modification of the swarm box. To prepare a swarm box we find the queen in the colony and set the frame she is on aside. We set the top hive body on a screen division board on top of the reversed hive cover on the ground. In this hive body we have 10 frames. At least three of the frames in the center must be one-half to two-thirds filled with open honey and pollen. The other six frames should have a little honey but should not be heavy with sealed honey. We shake the bees from eight to ten frames of brood into this hive body to get about four pounds of bees into this body. We place the inner cover immediately on this hive body to prevent too many of the bees from flying off or crawling over the sides of the hive body. The rest of the colony with the queen we put together and place this modified swarm box on top of the hive, followed by the outer cover. We thus have a swarm box made up on top of a colony with the bees and equipment from that colony.

The bees confined in the swarm box are the nurse bees from the brood nest. They have no brood until they receive grafted queen cells. They are supplied with frames containing honey and pollen and are separated from the hive by a screen division board. The temperature of the bees in the swarm box is partly controlled by the colony below through the screen division board. Unless the colony is in the sun during excessive hot weather, we do not fear overheating the bees in the swarm box. However, these swarm boxes, as well as the other colonies used in queen rearing, should be in the shade.

In our operations we make up swarm boxes on four colonies just before noon. Immediately after lunch we give each swarm box four bars of grafted cells. For the first graft we use large larvae (about 36 to 48 hours old) and graft into dry cells. Any colony, usually a swarm-box colony, is the source of the larvae for this first graft. Each bar of cells has 20 to 23 cells. Two bars of cells to a frame and two frames of grafted cells to each swarm box give approximately 80 to 90 grafted cells to each swarm box.

We place the two frames of grafted cells in the swarm box with one frame containing honey and pollen between the frames of queen cells and the other frames of honey and pollen next to the frames of queen cells. When removing the outer cover and the inner cover to insert the frames of queen cells into the swarm box, we use very little smoke and do not worry about the few bees that fly out. These are field bees anyway and are of little value in the swarm box.

Twenty-four hours later (the next afternoon) we remove the cover from the swarm-box colony, lift the swarm box off, remove the screen division board, replace the swarm box on top of the colony (now united by the removal of the screen), remove the two frames of queen cells, push the remaining frames together, add two empty combs to fill up the space, put the inner cover on the hive, place the screen division board on it, and finally put the outer cover over all. When the colony is closed, all we have left on the outside are two frames of queen cells that are well supplied with royal jelly and covered with bees.

After we have emptied all four swarm boxes, we shake the bees off the started queen cells and take them to the grafting house. Here we consolidate the accepted cells of the 16 bars of cells into 12 bars. Each bar has 20 to 23 queen cells. We now remove the queen larvae from these queen cells and are ready to regraft into queen cells that are well supplied with royal jelly.

We regraft with 24-hour larvae from our breeder queens and give one bar of regrafted queen cells to each finishing colony.

The finishing colony is most important in the rearing of good queens. It is a very populous, queen-right colony in which brood rearing is never restricted. To provide ample space for such a colony,

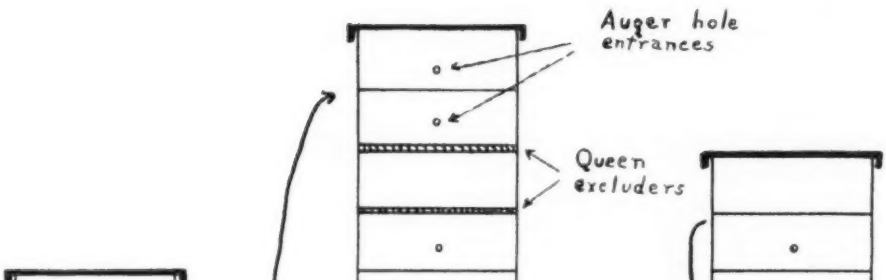


**Figure 1. Diagram showing establishment of a breeder colony above a booster colony.**

at least four shallow hive bodies are necessary. We use the upper hive body for finishing queen cells and confine the queen to the lower three hive bodies by an excluder. We place the frame for queen cells in the middle of the upper hive body between frames of unsealed brood.

On the day before giving a finishing colony a bar of queen cells, we raise three to six frames of unsealed brood and move the older sealed brood to the brood nest below the excluder. The main brood nest of the queen in the finishing colony is in the hive body just below the excluder. She can expand into the lower hive bodies.

When working a finishing colony to raise young brood, we put the heavy combs of honey to the outside in the lower hive body and move up partly filled combs to the upper hive body so that the brood nest does not become crowded. The bees will keep moving the honey up if it is not sealed. It is not necessary to feed a good colony of bees to stimulate or keep brood rearing or queen rearing progressing at a high rate, if the colony has ample food.

When a heavy honey flow is on, we add a fifth shallow hive body, placing it on top. This helps to keep the brood nest open by giving more space outside the brood nest for nectar storage. However, it is not advisable to have frames of empty combs just above the queen cells. They should be near the outside of the super.

Seven days later we give another bar of cells to the finishing colony after young brood has been raised above the excluder.

Ten days after the queen cells are regrafted we put the cells into the nuclei at the mating yard. Our nuclei hold four shallow frames. We use a triple "nuc" box formed by dividing a super into three compartments. Each "nuc" has two auger holes one below the other, and the three nuclei in each box have similar holes on different sides of the hives.

No colonies are placed in the mating yard. Strong colonies may incite robbing with the result that nuclei may be robbed out. Our drone-producing colonies are our cell-finishing, swarm-box, and reserve colonies located no closer than 250 yards from the "nuc" yard.

The breeder queens used on the island are of one inbred line artificially mated to drones of another. They are not so vigorous or such good layers as noninbred or hybrid queens, and therefore require different care than the commercial queen producer is accustomed to providing.

These breeder colonies must get help from other colonies to insure adequate numbers of young bees to keep them populous. If a breeder colony is allowed to become weak, the egg production of the queen will decline and the larvae used in grafting to produce hybrid queens will not be well supplied with royal jelly previous to grafting. Should this happen, both the quality and the quantity of the hybrid queens will be lowered.

To keep an ample population in a breeder colony, we must add

young bees at frequent intervals. In our operations at Kelleys Island we use the two-queen colony system. Figure 1 shows how such a colony is made up and organized. It is not difficult to operate, and its use insures a steady addition of young bees to the breeder colony without great danger of losing the breeder queen.

We introduce the breeder queen into a newly made-up colony. When she is well established and laying satisfactorily, this colony becomes the top unit of a two-queen colony. The queen in the lower unit, or booster colony, is a good vigorous hybrid queen and furnishes young bees for strengthening the upper unit.

The procedure for establishing a two-queen colony is as follows: We move a first-class colony to a location convenient to the grafting house. This colony is in a shallow four-story hive with the brood nest in the lower three hive bodies. After the colony becomes established, in two or three days, we consolidate the queen and all her brood in the lower three hive bodies, place an excluder above and below the fourth hive body, and the two-story breeder colony on top of this booster colony. All hive bodies with brood have one-inch auger-hole openings at the front of the hive. The entrances to the two units of this now two-queen colony are on the same side of the hive. The bees of both units mingle, but the two brood nests are separated by two queen excluders and a super for storage between the excluders. Bees from the lower brood nest go to the upper brood nest through the excluders and help keep this upper unit populous. Returning field bees using the auger-hole entrances, tend to drift to the upper breeder unit, keeping the population ample in this unit.

During a honey flow the bees tend to crowd honey into the brood nest of the breeder unit. Since the queen producer is grafting from this colony every few days, he can easily keep an open brood nest in the breeder nest by moving frames of honey to the lower unit as space for brood rearing or honey storage is needed. It is advisable to check the lower unit of this colony once a week to prevent overcrowding or swarming.

Since the two brood nests are separated by two excluders and the intervening super, there is no danger of the two queens coming in contact with each other. Because there is always danger of a virgin queen entering the breeder colony and killing a valuable queen, a small square of zinc excluder is placed over the auger-hole entrances of the breeder unit. Bees passing through these zinc excluders lose part of their pollen loads. Thus it is advisable to watch the supply of pollen in the breeder unit and add a frame of pollen when necessary to insure proper feeding of the larvae.

The queens produced at Kelleys Island are two-way hybrids. An inbred queen of line three artificially mated to drones from inbred line four is the source of the hybrid queens (3 x 4). The beekeeper who purchases these queens has hybrid queens (3 x 4) heading his colonies. Since all drones on the island are sons of (1 x 2) hybrid queens, the worker daughters of these hybrid queens will be (1 x 2) x (3 x 4), double hybrid workers in a colony headed by a single hybrid queen. If, in addition, the opposing sex alleles in the final cross are different, the hatchability will approach 100 percent and the brood quality will be excellent.

To provide the bee industry with the foundation stock for the production of such scientifically compounded hybrids, adapted to various purposes and various localities, is the objective of the Kelleys Island breeding project that is being conducted in cooperation with the Honey Bee Improvement Cooperative Association.

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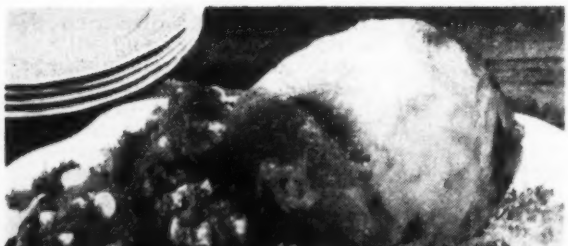

# Let's Extend Our Thanks Giving

**By Mrs. Benj. Nielsen**
**Aurora, Nebraska**

**Honey stuffed sweet potatoes.—Photo courtesy Kellogg Co.**

In a world so much of which is tense and unsettled we have much to be thankful for. Even in our down country where vast areas have been laid waste by devastating floods and winds, we who have been left untouched should be doubly thankful. These are the big things. The lesser everyday ones, so many of which we have grown accustomed to take for granted, are countless. With so much to be thankful for, one day in the year never seems enough to devote to thanksgiving. Let's extend it—a bit each day of all the year!

And, if you are just joining the ranks of confirmed honey users, long before next Thanksgiving day you will have still another joy to be thankful for. Nature's healthful golden sweet never fails to make good foods taste better.

If the budget just won't stretch to include a turkey, never mind—a lucious pork roast done to a turn and reinforced with delectable stuffed sweet potatoes will fill the bill admirably. Wind up your meal with a steamed honey fig pudding, or, if you are not a fig fancier, honey pumpkin pie. And don't forget to sweeten your cranberry sauce with honey, using less honey than sugar and remembering that honey flavors as it sweetens, adding a delightful flavor twist to tangy cranberries.

**Honey Stuffed Sweet Potatoes**

Six medium sized sweet potatoes, 3 tablespoons butter, 1 teaspoon salt, ¼ cup orange juice, 2 tablespoons honey, 1 cup drained, crushed pineapple, ½ cup walnut meats, 6 marshmallows, and 1 cup corn flakes, crushed.

Bake potatoes in moderate oven, 350 degrees F., about 45 minutes or until done. Scoop out insides; mash pulp with 2 tablespoons butter, salt, orange juice, and honey. Stir in pineapple and nutmeats. Refill shells with the mixture. Cut marshmallows into small pieces and spread over top. Sprinkle top with cornflakes which have been mixed with remaining melted butter. Return to oven and bake at 400 degrees F., for about 15 minutes.

**Honey Fig Pudding**

One-fourth cup shortening, ⅔ cup honey, 1 egg, ½ cup milk, ½ cup bran, 1 cup sifted flour, ½ teaspoon soda, ½ teaspoon salt, and 1 cup finely cut dried figs.

Blend shortening and honey. Add egg and beat well. Stir in milk and bran. Sift flour, soda, and salt together and add to first mixture with figs. Mix thoroughly. Fill greased 1-quart mold two-thirds full, cover tightly and steam for two hours. Serve with Hard Sauce or other pudding sauce. Yield: 6 servings. If figs are very dry, cover with boiling water and let stand ten minutes; drain thoroughly before cutting into pieces.

**Honey Pumpkin Pie**

One unbaked pastry shell, 2 eggs, 1 cup milk, ½ cup top milk or thin cream, 1½ cups pumpkin, ½ cup honey, ½ teaspoon salt, 1 teaspoon cinnamon, and ½ teaspoon ginger.

Beat eggs slightly; add remaining ingredients and mix thoroughly. Pour into pastry shell. Bake in moderately hot oven, 425 degrees F., about 45 minutes. Yield: 1 9-inch pie.

# Second Glances

C.M. Isaacson

**The McClintock portable honey stand** is well designed and their methods of drawing attention and actual selling are good. The whole thing might be put into a few words —put up a good product attractively, display it effectively, and call attention to your stand in time for motorists to stop (page 585). The honey industry needs many such selling projects by beekeepers themselves.

**Dry sugar feeding** for winter stores would have several advantages—in localities where extreme cold would not prevent bees from making use of it (page 587). Especially in areas where unripened fall honey would be a problem, it would be preferable, being free as it is from undigestible matter. With the upper entrance to allow moisture to escape, the system sounds like a good bet for many localities.

**"For none of us liveth unto himself".** Whether applied to Frank Pellett, Dr. E. F. Phillips, or others of our industry who have passed on recently, they are words to keep in mind. Their lives were lived in the light of this mighty Word—let us all likewise so live and we shall not have passed our years vainly, however unnoticed our works may be (page 589).

**Unfiltered, unheated honey** does have a taste closer to honey in the comb than most beautiful (?) looking, sparkling clear honey (page 590). I, in all likelihood, may stir up a hornet's nest around my head, but I have long held a private opinion that we have been proceeding in the wrong direction with our many times heated and filtered honey. Why not sell our honeys as a superior product—not as an imitation of commercial syrup? Have it clean, naturally, but beyond that, sell **honey**. Mr. Klopfenstein is right—be proud of what you offer.

**Some men's lives are not measurable.** E. F. Phillips, who has just passed on, and E. R. Root are two such. We in the beekeeping industry owe them far more than that which is merely apparent. All honor to them—they have not "eaten their bread alone". It is good to see the picture on page 593.

**Selection alone** can not keep up a strain of bees (page 594). Most beekeepers can agree with this statement from their own experience in having a strain "run out" as Mr. Roberts and Mr. Mackensen mention. And because it is impossible to control natural mating of honey bees, it was impossible to make a great amount of definite progress until feasible methods of artificial insemination were developed. Here again is an instance of how scientific experimentation benefits us all. Our best strains of hybrid bees are a result, with even better ones in prospect.

**Pellett Clover** can be a wonderful plant where it succeeds in taking hold. Melvin Pellett mentions that this is not always the case, and suggests that it may be due to the absence of the right type of nitrogen fixing bacteria. In my own case the planting failed to grow well and finally died out entirely. Let us hope the riddle of its variability can be solved (page 600).

**Cut your cappings downwards** when using a hand steam knife, says Propolis Pete (page 606.) Why yes, I have done so ever since I almost cut my nose with an upward slip, and for years have found it less tiring and far preferable. But I didn't share my discovery! More power to you, Pete—for the sharing of all your experiences and ideas. That device for holding the knife out of the way when not using, yet convenient when needed, sounds good also.

**Eat our own product**—or don't expect others to eat it! That editorial on page 608 contains sound advice. A beekeeper who is a non-user of honey is like the dairy farmer who sells his cream and buys oleo—a very foolish man!

**Queen introduction** can have variable success (page 609). The safest of all times perhaps (notice that I don't say "certain") is when virgins are ready to emerge. I have uncounted times simply let mailing cage queens loose on a comb at such a time—when all cells are sealed and some nearly ripe. The bees seem to be eager for any queen then, and queens are seldom frightened enough to be balled. Watch the comb a moment, and if that familiar "nursing circle" forms, replace the comb and shut the hive. Your queen will be safe.



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# Live and Learn

**By Propolis Pete**

This is the second time that I am writing this piece. Had it all ready to mail in and then the September issue of Gleanings had an article that shed a lot of light on the subject of my gripe.

Quite a few years ago I had a colony that was doing poorly. They just didn't seem to build up, although everything seemed to be in their favor. The queen was laying a lot of eggs, but no brood seemed to be developing. I requeened with a famous breed. The new queen was accepted and started to lay a mile a minute. She had three frames full of eggs when I looked a week after she was introduced, so I closed up the hive to let them alone for three weeks. When I did look again, they were queenless, there was only a handful of bees left and the colony was a goner. I united the remains with another colony.

This past summer I had a colony that came through the winter in good shape. In fact, it was my strongest colony last year. All through the winter on flight days, the bees came boiling out and peppered the landscape, including a couple of sheets and pillow cases. My wife was very unhappy, I was informed.

This past spring they acquired an acute case of spring dwindling. I took off the tar paper and looked. There wasn't much in the way of developing brood but there were loads of eggs. So I thought that it was just a case of the queen getting started late.

A week later, I saw the same thing. lots of eggs but little brood But I was still dumb. The next week. encore. I was beginning to smell something, but it was not foulbrood. It was trouble of another kind. I stuck a red thumb tack on a frame that was solid with eggs, and a week later looked at that frame again. No eggs, and here and there a scattered larva. I yanked that queen quick, and installed another. I had lost a lot of time, and while the new queen was accepted, she didn't start to lay for almost two weeks. She must have been a virgin and had to wait until drones were available. But the hive recovered to the point that I got about 20 pounds of surplus from it.

Apparently what had happened was that the queen that made that my best hive in 1950 had been superseded, and the new queen was one of those KKK alleles that they talk about in that September article.

**Here is more on the same subject.** I told you in a previous "Pete" that I started six packages last spring. They came in two crates of three each. Three of them were so good that I did something I never did before. I got surplus from packages. The other three were true to my usual experience. They built up to the point that they were fairly strong by the time the flow was over. I noticed in them too that the brood was scattered, although there were always plenty of eggs.

Here were three packages from one crate doing wonderfully well, and three from the other crate just getting by. The six hives were in the same yard, under the same conditions, getting the same treatment, and came from the same shipper.

Why didn't those three do as well as the first three? I'll bet they came from another yard and the breeder had his alleles all clobbered up.

In August, right after I extracted my honey, I sent for queens from another breeder to get a little variety in the stock. I requeened one of these duds, another old colony that had scattered brood and a third where the brood nest was compact, but there wasn't much of it. The two dud packages that I didn't requeen seemed to have superseded by themselves. Two of the old colonies definitely had superseded because I saw queen cells and they didn't swarm, and the present queens are going great. There is only one colony that I think has an old queen and that is the one that gave me my biggest crop. I am leaving her there to see what happens.

I had good luck installing new queens this year. Sometimes the bees just won't take the new one, but this year there was no hesitation. I wish that somebody would invent a sure way to introduce them without a lot of hocus pocus or handling of the queen. I don't like to handle her. I am so clumsy that invariably I do more harm than good. I'll bet that there is a way. I have tried a lot of ways, but with only a few colonies you never know whether success is an accident or a ritual.

# American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

## The Lesson of the Bees

It was fall. I sat beside a sapling oak tree on a country hill overlooking a wide expanse of fertile farm land. It was a warm, bright day, one of those gems that Mother Nature often lets out of her beauty kit before she closes it up for the winter. A streak of autumn sun lodged against the dark bark of the oak, and bounced back across the grass where I was sitting.

As I revelled in the coziness of the blanket of sun around me, a burnished red oak leaf fell to the ground in one last burst of glory. It settled across my foot. As I leaned down to pick it up, my eye caught a glimpse of a small golden form tucked in between two blades of grass.

I recognized it instantly as an old friend of mine. For a honey bee, spent with the hard labors of her short lifetime, lay prone at my feet. Her yellow body was unnaturally still, her wings no longer vibrated. Her home, a brightly painted white hive, was just a few yards away. But it had been a few yards too many. This honey bee would no longer return.

At first I felt sorry. I had come to learn the life and habits of the honey bees as I watched them flit from one bloom to the next in wild excitement, as if each succeeding flower would hold a pollen even more succulent than the last. I had watched eagerly as they poised on a clover head, fearing they would fall off, knowing they would not. And I had seen them congregate around their little white house with the same air of community spirit as you'd find in front of a country church on Sunday morning. I felt a common interest with them.

But as I gazed on the little worker bee my sorrow vanished. She had lived a good life, a full one. Her short life span was a normal one for a honey bee, and she had performed admirably during it. I could not mourn for her.

Rather, I could learn from her.

I watched a tiny ant tugging and pulling at another of its kind which had fallen by the wayside. I watched a green slippery-looking caterpillar weave its cocoon tightly around itself for the winter. I watched a fly light on the grass beside me and snap up a tiny white worm for its supper. I watched the oak shake its leaves to the ground for the winter. I watched a blade of brome grass bend to the will of the wind.

And again I looked at my fallen friend, the honey bee.

And I saw clearly how her life fit into that precious pattern called the balance of nature. And so did the ant's, and the caterpillar's, and the fly's, and the oak's, and the grass'. And so does man's.

It was as if a gigantic jig-saw puzzle finally had been put together, with every piece in its rightful place, making a completed whole. One missing part would have upset the whole picture. Each part was of equal importance, for without any piece, no matter how small, the total picture would be destroyed.

My little worker bee who lay prone at my feet had added her little bit to the picture. Her tireless efforts of carrying a cargo of pollen had cost her her life, but not before she had made that life a useful one. She had done her part and done it well, and there would be others to carry on the task. There was no need to feel sorry for her, only to be thankful because of her.

I couldn't help but carry the thought to its logical end. Man, too, must fit into that picture-puzzle. Man, too, must have a designated spot in the pattern. For all his wits and intellect, man must follow a role that has been set aside for him.

It was how well he performed in this role that mattered. The honey bee had done her job honorably. Man with the added advantage of a mind, must at least follow suit.

As I ran my fingers through the grass my glance rested on the small colony of bees not too far distant. Therein lived a blue-ribbon example for mankind. I marvelled at the community spirit, the lack of selfishness, the devotion to duty of every citizen of the hive. Each honey bee worked for the common good, so that the bee family might live prosperously.

(Continued on page 702)



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# Editorials

**Don't Cut Honey Prices** There appears to be some tendency in a few areas to cut prices. This usually has a depressing effect on the market. At present there is no good reason for price cutting. The honey crop the country over is somewhat larger than last year, by at least seven percent but the amount on hand for sale is five percent less than a year ago, according to the October 1951 Honey Report put out by Washington. The population of our country is increasing and the per capita consumption of honey is relatively low.

On page 682 of this issue Allan T. Brown brings out the fact that professional buyers for big chain stores never buy heavily on a falling market but do buy when the market is rising.

Price cutting does not increase honey sales but has a tendency to decrease them. We hope, for the good of our industry, that those who have honey to sell may maintain a reasonable price level.

**Beekeeping Is Different** Those of us who keep bees or perhaps have them keep us, may be so close to the business that we fail to appreciate as we should how different beekeeping is from any other business under the sun.

Some one has said that the only way one can honestly gain a living by stealing is to keep bees. In one sense this is true. Bees, being industrious little creatures, pay no attention to line fences or the ownership of land but fly freely over neighboring fields gathering nectar from other people's flowers and plants carrying it into the hives to make into honey which enriches the owner instead of the owners of adjoining farms.

Just what is this nectar the bees steal from neighboring farms? The chemist says it is sugar and water. He explains further that sugar is a carbohydrate, so-called because it is composed of carbon, hydrogen, and oxygen, the hydrogen and oxygen being in the same proportion as in water.

Who owns the carbon and water from which the nectar is elaborated? The carbon is taken from the air where it exists in the form of carbon dioxide; the water is carried to the farm on the wings of the wind from oceans, rivers, lakes, and ponds, wherever the air can pick it up by evaporation.

The elements from which honey is made also disregard line fences and land ownership. At least the ownership would be difficult to establish.

The production of nectar does not deplete the soil. The beekeeper takes practically nothing from the soil. When he ships his crop of honey to market, he is shipping material derived from air and water, and the resources of the community from which the honey came are not touched by its removal. The world supply of carbon and water is not used up by continued elaboration of sugar, for these are only borrowed until the honey is consumed.

However, when the bees take the nectar from plants they render a service to the owner of the farms on which the plants grow, which is of greater value, measured by human standards, than the value of the nectar. It has been said that bees render a pollination service to over 50 farm crops and the value of bees in pollinating these crops is being recognized today as never before.

And so, beekeeping is actually different. Those who are engaged in the keeping of bees, either for pleasure or profit, cannot help but be thrilled by the nature of the business.

**"Insects Affecting Alfalfa Seed Production in Kansas"** This is the title of "Technical Bulletin 70", issued June, 1951, put out by the Agricultural Experiment Station, Kansas State College of Agriculture and Applied Science, Manhattan, Kansas. Space permits only a few facts brought out by this most interesting Bulletin.

At one time Kansas was the leading alfalfa-producing state. Since 1949, California has led in alfalfa seed production, Arizona is second, Oklahoma third, and Kansas, fourth.

Work was carried on from 1945 to 1949, inclusive, to determine what insects are most important in alfalfa seed production. The most efficient

pollinators of alfalfa reported are the leaf-cutter bees. These bees tripped 18 percent of the flowers they visited and 68 percent of the flowers tripped by all insects. Attempts have been made to increase the number of these bees by boring small holes into logs to furnish natural nesting places near the alfalfa fields for the bees. This method was partially successful.

Bumblebees tripped 19 percent of the flowers tripped by all insects. They are decreasing in numbers each year.

Pollen-gathering honey bees tripped 4.3 percent of the total number of flowers tripped by all of the pollinating insects. Nectar-gathering honey bees were the most abundant of all insects found in alfalfa fields during the years of study but they tripped only 2.5 percent of the flowers tripped by all pollinating insects.

An experiment was made in moving more hives of honey bees near the alfalfa fields to be pollinated and this resulted in an increase in seed production.

The passage of the Utah Apiary Law in 1930, which prevented the moving of colonies from California to Utah, resulted in declining seed yields from 2,100,000 lbs. of seed in 1929, to 750,000 lbs. in 1930, 165,000 lbs. in 1932. In 1934 when this law was repealed seed production rose to 3,564,000 lbs.

It seems apparent then that the honey bee, even though it may not trip as many blossoms as some of the other bees, can be used to greater advantage in pollination work because as many hives of bees as are necessary for thorough pollination can be moved to fields of alfalfa in order to obtain good seed yields. As time goes on, the value of the honey bee in pollinating alfalfa is likely to be recognized as never before.

**Introduction of Queens** An extremely interesting paper, "Introduction of Queens" was read by the Rev. Brother Adam, Buckfast, Devon, England, at the International Beekeepers' Congress, held recently. Brother Adam regards the proper introduction of queens as one of the very few things that really matter in the management of bees. In elaborating, he goes on to say that success in introduction does not merely mean getting queens accepted but that queens should be, in the words of Brother Adam, "in full possession of their unimpaired vigor and fecundity". He does not place much importance on "colony odor". He says there is a "hive odor", a combination of odors derived from combs, brood, honey, propolis, etc. We too, have wondered about the different odors said to prevail in a hive.

Brother Adam's method rests mainly on having a queen introduced at the time she is laying. During the years we have used the "nuc" method of introducing, which means having the queen between two frames containing brood in all stages and placing the two-frame nuc into the center of the brood chamber of the queenless colony. When this nuc with queen is given to a queenless colony, it is seldom, if ever, that a queen is rejected. We like to have about ten "nucs" with young queens at the side of each apiary of 40 or 50 colonies. When we find a failing queen or queenless colony it is a simple matter to remove two combs with queen from one of the "nucs" near by, to put into the hive needing a queen.

**Apiary Locations Now Easy to Get** Some years ago it was sometimes rather difficult to secure suitable locations or sites for commercial apiaries. Farmers and even some fruit growers were not then sold on the importance of bees to agriculture. When the question of placing an apiary on a farm was mentioned to the owner he would usually make it known in no uncertain terms that he wouldn't have a bee on the place. And yet, that same farmer was being benefited by honey bees from nearby bee trees and perhaps bees from some neighbor's apiary.

Today the situation is changed. Farmers, fruit, and vegetable growers are asking for bees and in some instances practically imploring beekeepers to place bees near or in fields of clover and orchards. In fact, many beekeepers are now securing rental for colonies of bees furnished for pollination purposes, and that is as it should be. Some years ago the beekeeper had to pay the farmer for the privilege of placing bees on his farm.

This change in the attitude of the farmer augers well for the future of our industry. The honey bee is performing an indispensible service to agriculture which should be recognized.



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**Farm Commodity Prices** While it affords scant comfort, it is nevertheless interesting to note that whereas inflation is still under way on everything that beekeepers and farmers have to buy, the prices on so much of what they have to sell are still stationary, or, in some lines, actually declining. This is in line with the unbalanced condition accounting for so many inconsistencies today. Many poultrymen are still threatening to go out of business because they cannot get enough for eggs or dressed poultry to pay for feed and labor.

Many fruit growers were begging the public to come and pick apples or peaches because otherwise they could not sell the fruit for enough to pay for the baskets and the labor of picking.

With some exceptions, honey is still better off than some farm commodities. That its price is still not what it should be, all can agree.

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**Woman's Part in Beekeeping** During the recent International Beekeepers' Congress at Leamington Spa, England, an interesting paper entitled, "Woman's Part in the Development of Beekeeping," was read by Mrs. R. M. Duraz, Shalden, Alton, Hants, England.

In the paper Mme. Vicat (b. 1712) of Switzerland was mentioned as being a member of the first beekeeping association and presented a memoir on "How to Make Artificial Swarms".

Mme. Huber, wife of the Swiss naturalist who became blind in youth, made it possible for Huber to perform his outstanding service to beekeeping.

Mlle. Jurine, also a Swiss, was a skilled microscopist, who, under Huber's supervision, discovered the wax glands and ovaries of worker bees and proved worker bees to be undeveloped females.

There are thousands of women in England who keep bees as a hobby and a few engage in commercial beekeeping. Some women also carry on bee inspection work. On the continent, also in America, South Africa and other countries, women play an important part not only in handling bees but in research work and as editors of bee journals.

It may also be said that many women (wives and daughters) assist commercial honey producers in apiaries and honey houses, especially during labor shortages.

And lastly, let's not forget that it is the women who put honey on our tables. Men, some of them inclined to be vain and important, should never forget that women do play an important part in making this great beekeeping industry of ours what it is today.

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**Beeswax** When we speak of beeswax, we mean wax secreted by ordinary honey bees. If we assume that beeswax secreted by **Apis Dorsata**, or the giant bees, so-called, is the same as wax secreted by the ordinary bees, we are assuming something to be a fact without really knowing. There is a variation in the melting point of beeswax in different parts of the world. Beeswax from the west coast of Africa, known as Benguellan wax, often has a melting point slightly lower than that from bees in North or South America. The difference may be due to a different species of honey bees.

We know in general that bumble bees' wax is stickier, dirtier, darker, perhaps, than ordinary beeswax.

Now comes a reprint from the East African Agricultural Journal, Vol. XVI, No. 4, for April, 1951, giving a preliminary report on **Trigona Wax.** This is a sticky wax of such a consistency that if the edge of the cake is held between the fingers and thumb, it can be drawn out like chewing gum.

Years ago, we attempted to keep some stingless bees. They did not sting but they would dive into the ears and nose and burrow in the hair. They did not live long in Medina but we remember their extraordinary tendency to bring in propolis. Wondering, therefore, whether the Trigona wax would have any connection with stingless bees, we were interested to note that in this wax were remains of the bodies of adult Trigona bees, that is, stingless bees.

Little of this wax may find its way to U. S. but it may be used to adulterate ordinary beeswax. As little as 10 percent contributes noticeably to the stickiness of otherwise good beeswax, for the extraordinary amount of resin always has this effect. Are we to fear beeswax adulterated with beeswax (from stingless bees)?

# From North, East, West, and South

## SOUTHERN CALIFORNIA, Oct. 3

**Weather:** September in Southern California was quite varied as far as weather was concerned. There were hot days with hot nights, hot days with cool nights, and cool days with cool nights. A very unusual storm hit some sections the latter part of the month when a real mid-western thunder storm came up very suddenly in the night. To Californians it was very terrifying but some of the eastern people seemed to enjoy it. From one-quarter to one-half inches of rain fell in some parts of the country.

**Honey Market:** Of late the market seems to be slow and this condition probably exists because the wholesalers and retailers are pretty well stocked with honey. Prices haven't been too good but the recent action of the U. S. Department of Agriculture in arranging to provide a market for honey at 10.1c per pound for most grades of dark honey should help to strengthen the market.

The demand for beeswax continues to be strong and the price is good.

**Condition of Plants:** Even the light rains which have fallen the past two months have made the plants perk up. A little rain seems to encourage them as much as the beekeepers.

**Condition of Bees:** Honey producers seem to realize more and more that the bees must be kept in good condition all year if they are to bring in a good honey harvest. So the strength of the colony is being watched much more closely than in former years. We seldom hear of weak colonies any more. There is one exception, however, and that is where five or more colonies are used per acre for pollination purposes. Those bees do not always get enough honey to keep them in good condition and may even starve. So there are both advantages and disadvantages to the beekeepers in the pollination side of the business.

**Miscellaneous:** The Los Angeles County Fair held in Pomona and considered the largest fair in the world has just closed after a very successful three weeks operation. The crowds attending were unusually large and enthusiastic. The beekeepers of Southern California did themselves proud. There were several very excellent exhibits by various counties. There were exhibits of bees, honey, beeswax, and very fine cooked food and candy made with honey. The first award went to Riverside County where Roy Reed was in charge of the arrangement of the display. Second award went to San Bernardino County and third to Los Angeles County. It was very gratifying to see that there were many interested spectators standing around most of whom had questions to ask about honey, its production, or the good-looking cooked foods. It is a wonderful ad for the honey industry to have such fine exhibits at these big fairs.—L. L. Andrews, Corona, California.

## NORTHERN CALIFORNIA, Oct. 1

**Weather:** Two light showers fell in northern California this past month but without causing any particular improvement in the parched situation and without resulting in any great amount of damage. The fire hazard was reduced to some extent with the increased humidity at the present time a definite aid in this connection. Clouds are forming and storm fronts are moving in from the Pacific. This morning's radio broadcast predicts showers this afternoon with rain by nightfall, bad news for legume seed growers in the northern San Joaquin and Sacramento valleys and points north. While much of the seed harvest has been completed, many fields of alfalfa seed still remain to be thrashed.

**Condition of Colonies:** A majority of the colonies are in much better condition as to the general strength and stores for winter than at this time last year. Some surplus was produced in many alfalfa and ladino clover locations. Many beekeepers feel that the condition of their colonies was improved by their being honey-bound during late summer.



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Many beekeepers also increased the total number of their colonies in order to take care of the demand for pollination services. Increase made in May and early June built up into colonies strong enough for pollination or for surplus honey. Some of the package bee producers who use divided standard hives for nuclei, made increase by pulling division boards and thus uniting two or three nuclei. Such divisions frequently were ready for the second story within two or three weeks.

**The Honey Crop:** Northern California produced more than an average amount of high quality honey this year. The star thistle yielded well and so did legumes where the territory was not overstocked with bees. Very few beekeepers attempted to produce either comb or cut comb honey, although this is one year in which comb honey could have been produced. However, the probable yield was reduced materially by the reduced yields of the thousands of colonies used for pollination services.

**Honey Processing Methods:** Many of the larger producers in northern California could, to advantage, improve their methods of processing honey for the wholesale container. One of the most obvious improvements would be the incorporation of a more efficient heating system, or steam boiler, to provide the necessary heat for uncapping, for the rendering of the cappings and combs, for supplying heat to facilitate straining and in the clarification of the honey, and for general cleaning around the honey house. If wholesale honey buyers would require honey to be free of wax particles or would pay a premium for such honey, an incentive would be provided for greater efficiency in more honey houses. Most of the commercial extracting plants are in one portion of a warehouse which also serves for the storage, handling, and repair of general beekeeping equipment. This does not promote the general conditions which should be present in a room where a food product that needs but little additional processing, is produced. Wouldn't it be a worthwhile asset to the honey industry to make every extracting plant a place of cleanliness to which one could invite prospective customers during the process of extracting? In most instances this can be done in a way to reduce the cost of processing honey from the comb to the wholesale container.

**Honey Marketing:** The honey industry seems to be in another period of "what will you give me" instead of "what will you take". The primary reason for this situation seems to be that **too few people are interested in actually selling honey.** To sell anything, conditions must be such as to create a demand, and demand is created by **advertising** the merits of the product. Research methods are used to find the virtues of a product or new ways in which a product can be used. The Honey Marketing Order, now being considered by California beekeepers and on which every commercial producer will be given an opportunity to vote, is a self-help program under which every producer and handler of honey will contribute an equal share, 5 cents for a 60-pound container. This is only 1/12 of a cent per pound. (Arkansas has an industry tax of one-half cent a pound.) There is a limit under the Marketing Order to which honey can be assessed by the Board of Managers and the Marketing Order can be discontinued or made inoperative by vote of the producers or Board of Managers. It would seem that the producers and handlers would have everything to gain and nothing to lose by working together to increase the demand for honey through research and advertising.

At the present time, many of the warehouses of the handlers are filled with honey. This is usually the case following the close of a honey flow. Beekeepers who can afford to hold their honey in their own warehouses or in bonded warehouses should do so rather than to place it on an unwilling market. Many beekeepers follow the practice of selling their honey in late winter or in early spring, after the first rush of producers to market the bulk of the honey has passed, and do so with advantage.

The present storage and marketing facilities in northern California are insufficient to handle the honey produced in an average year and will be less able to take care of the producers when a bumper crop is produced unless a different system of selling is adopted. The subsidy program, if it is to continue, could be implemented to better advantage by providing means by which this surplus honey can be stored in the major producing areas, or right in

the producers' warehouse. Such concentrations of honey would be available to any buyer in any portion of the country and local buyers would not be forced to take more honey than they could conveniently move to their customers. Some of our larger honey houses can be adapted for the storage of honey on which loans could be secured when ready cash is needed by the producer. Some of our producers now are selling only a portion of their crop and storing the balance for better prices. With a subsidy on honey assured, there is no reason why a beekeeper should take less than the subsidy price of 10.1 cents per pound. Some producers packed honey for the school lunch program and temporarily solved their marketing problems that way. This program should create more honey users if only good table honey is included. The best program, however, is to develop a market other than through government sources.—J. E. Eckert, University of California, Davis.

## TEXAS, September 28

**Weather:** September brought respite from high summer temperature and a fair measure of relief from drought with general rainfall which covered more than the eastern half of the State. The heaviest rainfall occurred in south Texas where the prolonged drought was broken by local floods. More rain is needed in most sections to fully restore soil moisture and the diminished underground water supply.

**Bees and Plants:** Plants responded promptly to the recent rainfall which came sufficiently early for fall bee pasture. Bees have been getting considerable pollen from rainlilies and elms and some nectar from top growth of cotton and wild flowers, and colonies are rapidly expanding brood rearing. Prior to this time many colonies were light in stores and many yards remained on summer locations. Bee pasture is improving and many yards are being moved to winter locations. In due time there should be plenty of young bees and an adequate supply of winter stores. Reports from northwest Texas indicate that the honey crop from cotton will be below average in that area because of loss of field bees resulting from the wide use of insecticides on cotton. Until recent years sweet clover was considered relatively free from insect pests in Texas; however, during the last two years grasshoppers, thrips, sweet clover root borers, and garden web worms have caused considerable damage.

**Honey Crop and Market:** Except for the late crop of cotton honey, the current year's honey crop has been removed from the hives. Estimates from producers and apiary inspectors indicate that the current year's honey crop in Texas is about 40 percent normal. Bottlers have experienced some difficulty in obtaining adequate stocks of local honey. Prices in the retail trade are steady and the movement is becoming more active.

**Miscellaneous:** The Texas Beekeepers' Association held its annual meeting at College Station on September 24 and 25. The meeting was well attended and an excellent program was presented. The chief topics under discussion were the promotion of interest among local associations and young beekeepers. The officers elected for the coming year were: G. O. Stroope, Waxahachie, President; Stanley Weaver, Navasota, Vice-President; L. A. M. Barnette, Bellaire, Secretary-Treasurer

The Texas State Fair will be held at Dallas, October 6-21. The Dallas County Beekeepers' Association will conduct educational exhibits at this fair with the support of the State Association.—A. H. Alex, College Station, Texas.

## MISSISSIPPI, September 28

**Weather:** The unusually high temperatures of the summer carried over to about the middle of September, but has become rather mild and pleasant for the past two weeks. We had a severe drought over most of the state all summer but practically all the state has had rain this month. At this time showers are coming frequently enough to interfere with the fall honey show.

**Nectar Conditions:** This has been a year in which a majority of the honey plants yielded abundantly in spite of the high temperatures. Legume crops yielded abundantly over most of the state, except in southwest Mississippi where the drought cut it short. Some of our clover



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honey will compare favorably both as to color and flavor with any of the northern produced honey. Yields of an average of 75 pounds to the colony from clover was not unusual. Cotton has yielded well, especially in the Delta section, though the drought and late maturing of most cotton did cut it some. Our fall flowers, Spanish needle, goldenrod, boneset, etc., are giving us a very good honey crop at this time. Most colonies are already in an excellent condition for wintering. Colonies belonging to package beekeepers who did not try to take off honey, have generally been filled to capacity all summer and have little room to store much of the present flow. Since honey from these fall flowers is not very good for home consumption, there is no need to provide the bees with room to store more than is needed for wintering.

**Pollination Problems:** Interest in more bees for pollination is multiplying rapidly. Until very recent years beekeepers have had to beg for locations for their bees, even though the beekeeper offered to pay rent on the location. The average farmer considered bees a nuisance on the farm. More recently most beekeepers are swamped with requests to move locations to farms. Agricultural workers are deeply concerned about the lack of enough bees in the state to do the pollination job needed. Our state now has over a million acres of improved grazing land and has its goal set at five million acres. Recently, there is some talk of the beekeeper being paid rent for his pollination service. At a recent meeting of the Mississippi Beekeepers' Association, a committee was appointed to make a study of the pollination problem and to make recommendations for a suitable contract for renting bees for pollination.

Cotton poisoning, which has in the past done much damage to our beekeeping, is looking much better now. Calcium arsenate, which has destroyed hundreds of colonies of bees, is being used very little. The poisons now being used on cotton seem to do no noticeable damage to bees. Apparently, these poisons act as repellants to keep bees out of the cotton until the period of most dangerous effect is over.

**Honey Market:** Only a rather small percent of the grocers are well supplied with honey. Too many of them think there is no market for honey. Experience of local producers show that there is great possibilities for building honey consumption in this state. Most local producers are getting from 20 to 30 cents for honey sold directly to the consumer, and a few considerably higher. Five pound jars of northern produced extracted honey are selling for about $1.22 in some of the chain stores.—Homer Tate, Sec. of Mississippi Beekeepers' Association, State College, Miss.

## TENNESSEE, October 10

**Weather:** During August and the first half of September, weather was very hot and dry. Then rain came and fall flowers soon began to put on some growth and the weather continued to be warm through most of September with some cool nights.

**Crop:** During the summer months many colonies curtailed brood rearing because of lack of stores and some colonies were on the verge of starvation when goldenrod started to bloom. Feeding bees was quite general in the middle section of the state.

East Tennessee, having sourwood in July, did not suffer as much as middle and west sections. Sourwood produced quite heavily and was of much better quality than in 1950. Most of the crop has been sold and very little or none is left in the hands of the beekeepers. The average crop of honey is much above 1950 but it is too early to predict just what the fall crop will be.

**Market:** The price of honey varied somewhat in most sections but we were able to hold it to about the average for 1950. The demand for honey is above normal especially the light colored clover honey.

**Miscellaneous:** Some beekeepers are selling their bees and equipment while others are making plans to start beekeeping in the spring of 1952. The pollination program should encourage beekeepers to continue. It is important that we keep bees for this purpose alone. Beeswax is another important product and in case of war, honey will be the main sweet just as it was in the last war. So let us keep more bees,

and keep them better, as no one can see what the future holds for the beekeeping industry. We must have food and to have food, we must have feed for our cows, hogs, and other livestock. Pasture is the cheapest and best food for these and seed is necessary for the sowing of pastures, and as bees are pollinating agents why should we not keep more bees.

At this writing we are experiencing one of the best aster flows in recent years. Maybe beekeepers will be more optimistic about their honey crops.—L. H. Little, State Apiarist, Nashville, Tenn.

## MARYLAND, Sept. 15

**Weather:** Rainfall in most of Maryland has been below normal since the clouds of early June dropped their last water, while in the immediate mountain area, no rain from July 15 to Sept. 2 except one sprinkle.

**Honey Plants:** This drouth shut off much of the normal flow from white, alsike, and Ladino clovers, finally dried up the roadside white and yellow sweet clovers, probably hurt the goldenrod and fall aster flow, and perhaps impaired next year's clover yields. However, local beekeepers made, as usual, their annual crop from the May and June flows of dandelion, fruit trees, tuliptree, berries, and locust. This year in this area the bees worked the locust and berries and did little on the tuliptree.

In western Maryland, mostly mountainous, linden produced a strong flow, followed by buckwheat, while on the Eastern Shore lima beans yielded well.

Along the Potomac River bottoms, in central Maryland, vipers bugloss, thistles, and goldenrod were giving some nectar during late summer. In the vicinity of Ellicott City, in the upper Patapsco River country no gains from tulip-tree flow were registered but yields were reported from locust, clover, persimmon, sumac, and milkweed.

Beekeeping in the Free State suffers from a very general dearth of nectar after sumac, generally around July first. From this time on which is somewhat earlier, however, in the flatlands and somewhat later in extreme western Maryland—bees buzz along hit or miss on next to nothing, hereabouts making a living, maybe, and in other sections, slowly consuming what could be surplus. Fall usually finds aster and goldenrod furnishing nectar for stores, and very smart beekeepers in areas of good fall flow make considerable saleable honey from these.

**Honey Markets:** All the great fairs in Maryland this fall will offer a goodly assortment of prizes to beekeepers for both honey and wax displays. Such set-ups require much time and expense on the part of some who are interested in the prizes, but are, nevertheless, helping all of us to sell our honey by taking the trouble to so display theirs before the public.

Some beekeepers, shifting over to both extracted and comb honey, have done so by substituting two shallow extracting frames for the two outside rows of sections in certain types of older comb honey supers. Others run colonies for each kind.

Reports from over the state give the impression that when a good honey year strikes, as did 1951, immediately most of us have a market problem. Out-of-state honey in the chains is so low in price that there is little left for the producer here, should he try to sell in competition. Consequently if one has produced around a ton of honey from 25 to 40 hives, he appears to be caught in the middle of a descending price on the one hand and an increasing cost of making honey on the other. Take the case of the most up-and-coming beekeeper in a town of 4500, with a local market of 500 to 600 pounds annually in normal times, and a selling system, better than average, geared to dispose of that much surplus, when, bang! along comes a good honey year, prices work down low and there is only so much free time for this sideline. As one beekeeper told me "Yes, I can give it away, but if you start that, surely somebody will say its poor honey. Or, I can store it for a lean year; which is what I'll probably do." Extracted honey is selling around 30c and some of us won't take less. Maryland honey is filled with the nectars of so many flowers, especially in the mountains, that most of us feel we really are producing a premium item, be it light or dark.



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**Miscellaneous:** Maryland beekeepers attended the dedication of the new Apicultural Building on the University of Maryland campus near the stadium, at College Park, June 16. This handsome brick structure, devoted solely to the interest of Maryland beekeepers, their problems in particular, and the science of beekeeping in general, is presided over by Dr. George Abrams, Apiculturist at the University and a down-to-earth beekeeper along with the rest of us. He is also Secretary-Treasurer of the Maryland State Beekeepers' Association. Interesting features of the day were addresses by Dr. H. C. Byrd, President of the University; Dr. Abrams; Dr. E. N. Cory, State Entomologist; the late Dr. E. F. Phillips, who presented the Museum of the new building with one of two original Langstroth hives; and James I. Hambleton, who, in this writer's opinion, made the best speech of the day, and the best speech on general conservation he has heard in a long time. After stressing all the useful functions performed by the honey bee, in an agricultural world where tremendous numbers of beneficial and pollinating insects are being ruthlessly killed by poison spraying, Mr. Hambleton urged a definite ROLLBACK from our present chemical agriculture to a simpler type without poisons and without wanton beneficial insect destruction. (See page 682.)—S. W. Edwards, Myersville, Md.

## MINNESOTA, Oct. 8

**Weather:** Usually we do not write about the weather, because we have it whether or not. But when it affects Minnesota beekeeping as it has recently it demands attention. Here's what some producers say:

"August weather was abominable: rain and then some more rain. No nectar since August 7, with brood nests practically empty. Must winter feed from supers."—Langley.

"There were plenty of flowers but the bees could not fly."—Sunberg.

"31 days of cool, rainy, and cloudy weather during August."—Reinert.

"Not over three weeks of sunshine all summer."—Patten.

**Comment:** The influence of such weather was very evident in excessive swarming. Queens ceased laying early in September and began again Oct. 1 with three days of Indian summer. Some beekeepers were headed for a bumper honey crop as July wore on. But we might as well have had a killing frost early in August, since the bees could not get out to the flowers anyway. So a very modest crop and in some instances a poor crop was gathered. With good management and favorable locations some beekeepers were able to get a fair crop. With present increased operating expenses this means that some beekeepers are decidedly in the red this year.

**Ten Cents Wholesale:** We asked a number of beekeepers this question: "Can you make a profit on 10c honey?" Nobody said "Yes", several said "No". One said: "As long as we have good crops we can make a profit on 10c honey."

Others commented: "A beekeeper may exist for a time on 10c honey but I do not see how he can keep his equipment repaired and replaced at that price."

" You would have to get 18c a pound to break even. I got a job at $65 a week."

"We can't make a profit on 10c honey, even though we pay out comparatively little for labor."

Nevertheless, the wholesale price is around 10c delivered, netting 8c to 9c for the producer. A commercial honey producer, like many other producers of edible products, is too busy with his operations to reap the marketing. **Result:** Some beekeepers try the pollinization angle, many go into other lines, and American agriculture is losing a very important co-worker.

**Pollinization:** The "experts" write articles about placing colonies in the open fields, how many per acre, etc. The farmer wants the beekeeper to comply, and if he does he violates good beekeeping practice in regard to wind shelter, air drainage, and makes himself a lot of extra work and expense. Perhaps his bees are poisoned, or weakened from exposure. There are so many ideas about payment that both beekeeper and farmer are confused. We are getting nowhere fast!

**Conclusion:** Beekeeping risks, coupled with non-profit honey prices in comparison with today's expenses, will surely and shortly bring about some kind of a change. It may be real Government aid, equal to that

given other branches of agriculture, and it may be many less beekeepers. The side-line beekeeper may hang on, but the commercial beekeeper is being forced out or to make adjustments. Only in very favorable locations can he continue to make it pay.—Bruce Morehouse, Montevideo, Minn.

## NEW JERSEY, October 9

**Weather:** The month of August in this area was extremely hot, so dried up the few available nectar-producing plants so that the latter part of the month found many colonies with less than two pounds of stores. Feeding was resorted to in some yards to prevent starvation. Fortunately the weather during the blossoming of autumn nectar-producing plants—Spanish needles, goldenrod and asters—was such that bees were able to gather not only winter stores but in many cases yielded a surplus.

The very much needed rains came on the 6th. Previous to that time the soil was very dry. However, since clovers have ceased to be an important nectar-producing medium, due to changes in farming practices, this extremely dry period is not likely to be a factor in a honey crop.

**Honey Plants:** The changes in farming practices, with the exception of one crop which is confined to a limited part of the state has made it necessary for New Jersey bees to depend on uncultivated plants and trees for nectar. This emphasizes the belief that it is incumbent on the New Jersey beekeeper to do what is possible to have pollen and nectar-producing plants used along highways—plants which will be useful in landscaping the highways, provide for erosion control and something for bees as well as feed for game and birds. A movement is being inaugurated in this state to have this done.

**Market:** Although a mid-western pack of honey is being offered in local stores at 95c for five pounds, the price most beekeepers are receiving is 35c for pound jars, $1.00 for three pounds, and 50c for sections. Movement is fair.—Elmer G. Carr, Pennington, N. J.

## ONTARIO, October 8

**Honey in Ontario** has been getting some excellent publicity this year. A big crop of white honey of choice quality is now on the market, and beekeepers have not been slow in letting the consuming public know about it. In addition the press, both daily and agricultural, has had lengthy comments. One central Ontario daily in an editorial under the caption, "Honey of a Year", drew the attention of its readers to the bountiful crop, and really extolled the merits of honey. Exhibits at the Canadian National Exhibition, with an attendance in excess of two millions and at many smaller fairs, have brought honey to the attention of a considerable percentage of the Province's population in a forcible manner, by actually seeing it attractively displayed. All this is cheap and really effective advertising.

Then in addition, the Ontario Beekeepers' Association and the National organization, the Canadian Beekeepers' Council, have an extensive program of newspaper, magazine, and radio advertising coming up. As I have mentioned previously in these notes a levy of one third of a cent per pound of contents is collected on all honey containers sold in Canada, to finance the advertising program, which has resulted in past years, in a definite stimulating effect on the market. As a matter of fact, I believe the demand for honey can be increased by judicious advertising to a point where it will be difficult to supply the demand.

**With honey which will sell itself on quality alone this year,** it seems amazing that some beekeepers will rush to offer it at cut prices. There are always a few, and they are not all small sideline beekeepers either, who reason this way: "I have a good crop, so has John Doe, so I must beat him to the market." So he tries to do it by the only inducement he can think of—a low price. He doesn't realize that a cut price is the most effective way to reduce sales volume. The individual purchaser will think. "Oh, price going down! I was going to buy a case. Guess I will just take one ten now. Maybe the price will drop further".



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But if the honey seller said—"The price today is 95 cents, next week it will be $1.10", he would create a buying rush. It is very noticeable that professional buyers for the big chains never buy heavily on a falling market, but they do buy when the market is rising. The price cutter is generally the inefficient producer who may be selling below his cost of production without knowing it.

I have no figures on the late summer crop in Ontario which usually consists mainly of buckwheat and goldenrod. Locally the late crop is negligible, and the small quantity harvested is reported to be high in moisture. We have fed it all back to the bees for winter stores, to be followed later by sugar syrup. Buckwheat which used to be a fairly regular crop in Ontario is not widely sown now.

**The summer now drawing to a close** has been one of abundant rainfall, and newly-seeded meadows have made excellent growth. More legumes are being used in hay and pasture mixtures as farmers become more fertility conscious and that is all to the benefit of the beekeeper. Also with farmers becoming more familiar with the value of the bees' services as pollinating agents, a closer partnership between beekeeping and agriculture is developing.

With the season drawing to a close beekeepers are commencing to think of their autumn meetings and banquets. I presume that the Ontario Beekeepers' Association, and the Beekeepers' Council will meet in November, the former in Toronto as usual, and the latter in Quebec City. Hope to have some notes on these later.—Allan T. Brown, Peterborough, Ont.

## MARYLAND'S NEW APICULTURE LABORATORY

**On June 16, 1951 the new apiculture laboratory at College Park, Md., was dedicated. On page 680 our new correspondent, S. W. Edwards, of Myersville, Md., gives a summary of the Dedication Service.**

## Wax Secretion by Bees

**By Allen Latham, Norwichtown, Conn.**

Some 45 to 50 years ago I began to question the belief that it required 20 to 25 pounds of honey to produce one pound of wax. I was running most of my colonies for comb honey and I found that the colonies working for comb honey were little if any behind those working for extracted. Some years before that I had discovered that bees produced wax very fast. One of my let-alone hives filled all the frames with new comb and honeydew in June. As the sumac flow began early in July I cut out the combs of honeydew and left the empty frames in the hive. The colony filled all the frames with new comb and produced something over 100 pounds of sumac honey.

It was about that time that I had an order for two 5-gallon cans of sumac honey. I cut out about 150 pounds of comb which had practically 100 percent pure sumac honey. I got 150 pounds of honey from it and the wax from it weighed almost five pounds. It was then I learned that bees used about one pound of wax to hold 30 pounds of honey.

I soon discovered that though I gave empty combs to colonies run for extracted honey the bees did not cease to produce wax. Much of this wax was put here and there for ladders and as a binding unit to hold bottoms of frames to the surface below them, and to build little hillocks of wax on top of the top bars. I began to believe that while gathering honey the bees were sure to produce lots of new wax. It is their instinct to do that, and when they are not building new comb they use that wax to no important purpose. The wax-workers themselves will often go through the motions of making comb as any beekeeper can see for himself. Observers of their action have named it the wash-board movement.

I wonder if most beekeepers who run for extracted honey realize that as the same combs are used over and over they keep gaining in weight. Any close observer can see that the bees keep fastening the comb to the top bar with more wax and also add to the cells to strengthen them.

Out of curiosity today, I went through some extracting bodies in which were dry combs and selected those with very new combs and those that had been long in use. I chose some very old combs and some not so old and some that had been used only three years. Each comb was carefully weighed, frame and all. I then weighed empty frames to find the weights of the combs. I found that the combs themselves weighed from 3½ to 10 ounces. As the combs varied some in thickness I came to the conclusion that new combs just built ran about 3½ to 4 ounces.

The frames of combs selected ran in weight from 3½ ounces to 10 ounces. It became quite obvious that those combs had gained in weight so much that many of them were nearly three times as heavy as new combs.

From the facts I have found it is a mighty good thing to uncap frames of honey deeply, almost to the midrib, in fact. Instead of just skimming off the cappings one will find it very profitable to cut off half or more of the cells. Wax brings a good price and there is no sense in wasting it. I began last year to uncap almost to the midrib. I regret that I did not discover this saving 40 years ago.

[For the last few years most writers seem to have agreed that the bees eat an average of six to eight pounds of honey to secrete a pound of beeswax.

C. A. Jamieson (now Dominion Apiarist of Canada) in the May number of Gleanings for 1944 gave the results of the extra beeswax secured by using only eight combs instead of ten and uncapping deep. This is generally accepted today.

Brood combs increase in weight from the cocoons. Are you sure extracting combs do?—Ed.]

## Keeping Scraper Clean

**By E. P. Hummel, M. D.**
**Sterling, Colo.**

If you are having difficulty in keeping the edge of your knife or scraper clean while cleaning honey sections or section holders, try this: Take a piece of soft pine board, cut one end bevel 45° and nail it to the edge of your work table with sharp edge of bevel away from you. When your knife or scraper edge becomes covered with wax or propolis draw the edge toward you through edge of bevel and see how nicely it is cleaned.



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# A Talk to Beginners

M. J. Deyell

### Are We Missing Anything?

I know a man who walks along the street with his head down, apparently looking at the sidewalk. He may be in deep thought and perhaps has more ideas in his mind than I ever thought of having.

While in college, I used to see a student walking along the street looking up into the sky, never paying any attention to other students on the campus. He was an excellent student, and a "shark" in mathematics.

Both of these people mentioned may have missed seeing a number of things that others, looking in all directions, have an opportunity to see.

We, as beekeepers, have a chance to observe many things in bee behavior during the season if we will take the time to do a little observing and not be so intent on accomplishing an enormous amount of work that we neglect or overlook some important things that come within the scope of our observation each day. Undoubtedly I have been guilty of failing to see in the bee yard some things that others more observing may have seen. In the future I shall try to be more observing.

### Some Things I Have Noticed This Season

Bees, like humans, are creatures of habit. We humans are likely to do the same thing in the same way each day. For example, when I shave each morning I start on the left side of my face; others may start on the right side. Apparently we inherit some of our characteristics from our parents. I am told that I walk exactly like my father. He passed on when I was five months old so I never had the opportunity of watching him walk. Honey bees probably inherit their characteristics. Bees that have been using a certain entrance to a hive will continue to try to use this entrance even after it is plugged up. A few months ago I found bees using an upper entrance in a shallow super in the hive just west of our office. There was a slight defect in the end of the super and many of the bees used this opening or entrance rather than the regular one below. One day I nailed a small cleat over the

M. J. Deyell

upper entrance and as soon as I had done this, the bees coming in from the field piled up on the cleat trying to get in. After walking around a while, they would then walk down the front of the hive to the main entrance. This continued for about three weeks. As time went on, fewer bees would try to get in where the upper entrance had been. I should like to have had a movie of the bees alighting on the cleat then running down to the bottom entrance.

Those of us who have had experience with bees robbing know how difficult it is to have them forget the small opening in the corner of the honey house through which they were passing in order to steal some honey.

**Bees fanning at the hive entrance.** All of us have seen this on a hot day and perhaps you have noticed the formation of the fanners. They are quite close together but alternated so that the tips of the wings of one fanner do not come in contact with those of the nearest fanners. This apparently is to economize on space. These fanner bees look very much like a group of airplanes in the sky.

**Bees storing honey above an inner cover with the center block removed.** Some of you have observed how bees will do this and I have wondered sometimes if we are failing to take advantage of some principle involved in the storage of surplus honey. The fact remains that bees will store honey in a super above an inner cover if the honey is coming in fast enough and if the

bees need comb space. This summer at the time we were removing surplus white honey in western Ohio, we were in sort of a quandary as to whether we should put on more supers, because in that area bees usually make a living but store no surplus from August until the close of the season. However, a year ago a honey flow from clover, presumably Ladino, occurred during August. As a matter of fact, we produced some beautiful section comb honey at the time. This year, in order to provide comb space in the event that a late summer flow did occur, we placed a deep super containing frames with full sheets of foundation over each inner cover with the center block removed. When we returned to the yard two or three weeks later, we found that the bees had entered these supers, drawn out the full sheets of foundation, and stored a considerable amount of honey in the combs. In some instances, colonies went up through the queen excluder and the hole in the inner cover in order to store surplus above. It is understood, of course, that we do not recommend this procedure. As already intimated, there appears to be something rather uncanny about this behavior that is perhaps not too well understood. Could it be that bees prefer or enjoy passing through a small opening to carry honey into the supers rather than a larger opening, the entire width and length of the hive?

**Working Bees Without a Smoker**

While on vacation I removed my bee smoker, hive tool, gloves, and veil from my car and placed them in a corner of the garage. A few weeks ago I had occasion to introduce three queens in one of my yards. When I arrived at the yard I found I had nothing with which to manipulate hives, so drove back home after the paraphernalia. Again reaching the yard I found I did not have my bee smoker. I surely was disgusted and concluded I must be losing my mind. Well, I hated to drive back home again after the smoker so decided to try manipulating the hives with the veil, gloves, and, of course, a hive tool. Fortunately there was a light honey flow on that day and the bees were working quite well. Believe it or not, I went into a number of colonies, found three worthless queens and introduced three young laying queens. I had worked bees previously without a smoker, in an emergensy, and knew it could be done, provided one moves slowly especially after opening the hive. The greatest difficulty in handling bees without a smoker occurs just after the cover of the hive is removed. Naturally, the bees will rush out and in most instances sting, therefore, it is essential that the hive cover be removed as gently as possible. One should stand perfectly still until the bees have settled down and then it is possible to remove combs, one at a time, with very little danger of being stung, especially if no quick moves are made. I would not think of trying this during a dearth of nectar or when the weather is cool, nor do I recommend such procedure, but I am simply saying that it can be done. Before the bee smoker was invented beekeepers had to work bees without smoke—unless tobacco smoke was used.

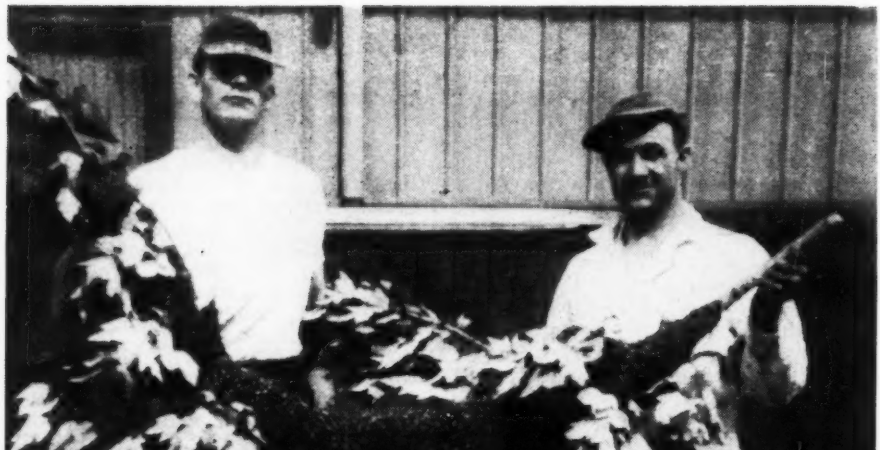
**The Scale Hive**

I would not think of being without a scale hive. It serves as a sort of barometer of what is going on in the local bee yards. Such a hive is located just west of the Gleanings office and I can look out the window or door any time during the day to see what the bees are doing.

This scale hive has made a gain of 48 pounds since August 17 (this is October 3) and we removed 67 pounds of summer honey just prior to August 17. This is somewhat unusual for this locality.

The day before yesterday the scale hive gained five pounds. We record the weight early in the morning of each day. Last evening, about 7 o'clock, after all of the bees were in, I found that the hive had gained 8½ pounds during the day. At 7:30 this morning, 12½ hours later, before the bees had gone to the fields, the hive had lost 2½ pounds which made a net gain for yesterday of six pounds. During the night the bees had driven some excess moisture from the nectar. This is quite an unusual gain for October. However, we are having some summer weather with temperatures running above 80° during the day. There is an abundance of white aster which the bees are working heavily.

I may have mentioned this before in a talk but perhaps it is worth repeating: In 1943 or perhaps it was 1944, I had an apiary that averaged 75 pounds of surplus honey from aster, from the 1st to the



A 14 pound swarm too large for one man to handle.

15th of October. When the flow came on the bees did not have much honey in their brood chambers consequently had to fill up the double brood chambers before putting any honey above. This goes to show that we never know until the very end of the season what is going to happen in honey production.

A few years ago, I talked with L. R. Stewart, Newport, Indiana, who said that one year he had a heavy flow from wild cucumber in November. That is rather late in the year for a honey flow in this latitude.

My brother, living near Lindsay, Ontario, says that his honey flow is practically over by September 1. I was up there about that time this year and noticed a considerable amount of goldenrod. My brother says that goldenrod and aster very seldom yield much nectar in that part of the province. The soil and weather must be different there. There is a lot we don't know about nectar secretion.

**Bees Gathering Pollen After Rain**

I have often wondered why it is that a few bees with pollen on their legs may be found entering a hive very soon after a rain. You readers have likely observed this. Presumably it would be difficult, if not impossible, for bees to collect pollen from plants when the blossoms are wet. Possibly this pollen was collected from plants which have the blossoms facing down so as to shed the rain. Is it possible some bees collecting pollen get caught in the rain, away from the hive and seek shelter somewhere until the rain is over? I would appreciate hearing the experiences of others along this line.

I recall, years ago, when I produced honey commercially in the raspberry region in northern Michigan, seeing bees carrying nectar during a light misty rain when the thermometer stood at 70° F. I was told that bees were getting the nectar from wild raspberry which was in bloom at that time and that the blossoms, facing down, shed the rain. This sounds plausible. I can recall so well watching the bees as they flew by the house in the shadow of a building near by.

**The Big Swarm — Took Two Men to Handle**

This large swarm shown was captured on June 19. It weighed 14 pounds. We know—we weighed the hive before the bees were put in, then weighed the hive and bees. We were rather disappointed with the amount of honey this swarm stored. At the time we thought it would be an excellent swarm for storing section comb honey, but it became queenless and by the time we got a queen introduced and laying, the best part of the season was over. Usually, such a large swarm, if put into a hive at the very beginning of the major honey flow, will make an excellent showing in honey production.

**A Handy Way to Make Increase**

There isn't anything new about what I am going to tell now. The method of making increase that I use works well in this locality. It is so simple that there isn't much to it. I usually have one or more hives in each apiary containing combs from colonies that passed out during the winter because of supersedure or other causes. These hives are in single-story brood chambers, the upper story having been removed to use on some other hive. I make it a point to reduce the entrances down so that mice cannot gain entrance to destroy the combs. So here is the procedure: Take an upper brood chamber, sometimes called the food chamber, from a strong colony (making sure the queen is left in the bottom story), then move this upper story onto a hive in which the bees have died. I have in the past permitted those queenless divisions to rear queens but this year I introduced young laying queens at the time the strong colonies were divided. The queens were accepted readily. Each of the upper chambers used for increase were full of bees and the combs contained honey and pollen, and seven or eight of the combs had brood in all stages. At present those divisions are built up into strong colonies and each has a super which is now being filled with fall honey. These colonies, made up the middle of July, should winter well and be in excellent condition next spring. This procedure is not recommended for localities where there is no fall flow.

**Late Fall Management**

By the time this reaches our readers it will be rather late in the season to do much about fall management of bees. Preparation of bees for winter should begin in August. Each colony should be headed by a young queen in order to have populous colonies to go into the winter. It is important that all colonies have an abundance of stores.

In areas where no fall honey is available it may be necessary to feed sugar syrup. Usually syrup made up of two parts granulated sugar and one part water is fed during October or perhaps late September. Directions for feeding appeared in the October issue of Gleanings. We can furnish a sheet describing a good method of feeding in the event more information is needed.

When feeding sugar syrup in November, when the weather is cool or cold, syrup made of 2½ parts of sugar to one part of hot water, either by weight or by measure, should be used. If the syrup is fed while warm or quite hot in a division-board feeder, the bees will take it. In any event be sure bees are well fed.

## Ants in Your Apiary

Nearly every beekeeper at one time or another has been troubled with ants getting into hives. Usually the little rascals set up housekeeping on top of the inner cover—and with absolutely no attention to eviction notices. Even when you clean them out you will find them back in their old haunts on your next inspection. Some beekeepers sift ant-killing compound around and under the affected hives. Some rig up stands in cans of water. Trustee Henry Puchta reports a simple and inexpensive method of eliminating ants from his colonies. He sifts Old Dutch Cleanser around on the inner cover of the hives infested, puts the lid back in place — and reports the ants have moved by the following day! Try it. OLD DUTCH CLEANSER - found in most homes. If it works for you, maybe Puchta has made a real contribution to beekeeping.—Eastern Missouri Beekeepers News Letter.

## Honey House Suggestions

A "Honey House" is any room, building, or place used for the purpose of extracting, processing, bottling, and/or other handling of honey.

The following are the suggestions for the desired construction, operation, and maintenance of a honey house.

1. **Floors**—The floors of all rooms in which honey is handled, extracted, processed and packed, and of storage rooms, shall be of concrete or other equally impervious and easily-cleaned material, and shall be smooth, in good repair, and kept clean.

2. **Walls and Ceilings**—Walls and ceilings of rooms in which honey is handled, extracted, processed, packed, or stored, shall have smooth washable surface, painted with light-colored paint and shall be kept clean and in good repair.

3. **Doors**—All doors shall be of solid construction and shall be bee and fly tight.

4. **Windows and Screens**—All openings to the outside in the extracting and bottling room shall be screened, and kept in good repair and equipped with bee escapes.

5. **Water Supply**—Shall be sufficient and sanitary.

6. **Waste Disposal**—Outside toilet shall be at least 20 feet from the plant. Such building shall be screened and have a self-closing door. It shall be rodent proof.

Where floors have a floor drain such a drain shall drain underground into a septic tank or cess pool (for the prevention of A.F.B.)

7. **Washing Facilities**—(For workers)—There shall be an adequate supply of clean water available. Clean and sanitary towels shall be provided at all times the honey house is in use.

(For Equipment)—There shall be plenty of clean water available for this purpose. Floors, knife, drainage boards, and other small equipment shall be cleaned daily.

8. **Storage of Equipment**—All extractors, tanks, and other equipment shall be stored in such a manner that they are properly protected from dust, dirt, rodents, insects, and other contamination and not used for any other purpose. All extractors, tanks, and other equipment shall be kept free from rust and aluminum paint.

9. **Storage of Unsold Product**—Shall be in a clean and sanitary manner. All tanks containing honey shall be kept covered except when extracting is in operation.

10. **Cleaning of Container Before Use**—All containers shall be clean and sanitary before honey is packed in them.

11. **Heating Equipment**—(boilers, heaters, and oil stoves)—No heating equipment that gives off any dust or odor may be used within the honey house unless properly vented.

12. **Extracting Combs**—No honey shall be extracted from combs that contain brood of the bees or the larva of the wax moth.

13. **Workers**—Workers shall wear clean washable outer clothing and head cover at all times during extracting, processing and/or bottling, and shall keep hands clean at all times.

14. **Vehicles**—All vehicles used to transport supers shall be clean and sanitary. Supers shall be protected in transit.

15. **Supers**—All supers of honey shall be stored in a clean, dust-free manner before extracting.

16. **Other Uses of the Honey House**—(During Extracting and Bottling) It shall be used for no other purpose at this time. During balance of year it may be used for storage of bee equipment and supplies and incidental uses pertaining to beekeeping.

17. **Portable Extracting Plants**—Shall be kept in as sanitary condition as stationary honey houses.

NOTE: The above suggestions were recommended by the following Committee on Honey House Sanitation to be presented to the American Beekeeping Federation: 1. Killion (Chairman) 2. Bailey (Absent) 3. Krebs; 4. Turnipseed; 5. Feeler; 6. Schafer (ABF)

### INTRODUCTION TO THE SANITATION CODE FOR HONEY HANDLING

This organization realizes that many producers of honey forget they are handling a food product. The Pure Food Authorities are now interested in checking the source of some unclean honey now on the market. These authorities sometimes know very little about the Honey Industry and some of their proposed regulations are apt to work a hardship on many honey producers.

(Continued on page 701)

## Attractive Honey Exhibits are Good Publicity

W. Kerr Scott, Governor of North Carolina, and W. A. Stephen, Extension Specialist for the state, examine a comb of honey.

A fuller view of the honey exhibit at the North Carolina State Fair held earlier in the year.—Photo by Willis Photographic Studio.

# Asked & Answered

## Killing Off Bees in the Fall

Question: I have had poor luck in wintering bees outside. I have no basement so this year I have decided to kill the bees and start with package bees in the spring. Should I go through them and kill the queens now (Sept 8, 1931) and allow all brood to hatch out, or leave them and kill later, queen and all? Reason for the question is about the dead brood if the queen is left until all are killed.—K. N. Larson, Wis.

Answer: Killing off your bees in the fall and stocking the hives with packages next spring can be done. If you decide on this program, you should remove the queen from each colony as soon as possible. It is necessary, however, to go through the colony nine days after the queens are removed in order to destroy all cells. If you fail to do this, the colonies may rear young queens. After brood has emerged and the bees have gathered all the honey available for the season, you can then destroy them by using Cyanogas. This may be obtained at any drug store. It is a deadly gas and should be used with care. You must avoid inhaling any fumes from the gas. About a tablespoon of this chemical (which comes in powder form) should be placed on a stiff cardboard at the hive entrance, then pushed into the entrance of the hive. In less than a quarter of a minute all of the bees in the hive will be dead. The gas, being lighter than air, travels up and destroys the bees instantly. Later on, the dead bees should be removed from the hives and the entrances closed tightly to exclude mice during the winter. It is well to place the hives in a building during the winter. The honey left in the combs of each brood chamber will be used by the package bees next spring. You might have to feed sugar syrup next spring, the amount fed depending on the amount of honey in each hive.

## Strong Odor in Apiary

Question: For some time there has been a mild odor about the hive — sort of a sour honey smell. What causes the sour odor?—Solon C. Thayer, Ohio

Answer: The odor detected around your hive likely comes from fall honey—goldenrod and aster. This odor is quite common along in the evening when the bees are fanning inside of the hives, driving off the excess moisture from the nectar that has been carried in during the day. Many beekeepers have been disturbed over this seemingly obnoxious odor. In some instances they have feared that some bee disease was present. This odor is not cause for worry.

## Acid for Removing Surplus Honey

Question: I would like to have some information on the use of acid boards for removing bees from supers. I need a way to speed up the removal of the honey crop.—Wade W. Brugger, Ohio.

Answer: In order to use carbolic acid in the removal of surplus honey, one or two thicknesses of burlap sacks should be fastened to the inside of a hive cover, preferably a telescope cover. A thickness of screen to keep the burlap in place is an advantage. A small amount of carbolic acid is sprinkled on the burlap but the liquid should not come in contact with the honey. A bottle with a clothes sprinkler works well. The rim on the inside of the inner cover should prevent the burlap from touching the tops of the frames. This method of driving the bees down out of the supers works better on a sunshiny day than on a cool one. As a matter of fact, when the sun is not shining and the weather is inclined to be cool, this method is not to be recommended. In a short time after the acid cover is put on, the bees will be driven down. This cover can then be put on another hive. If you have a large yard of bees, from 30 to 40 hives, about six of these acid boards can be used to advantage, especially if two men are doing the work.

## Moving Parent Hive to a New Stand

Question: When a colony is moved to a new location and a swarm placed on the old stand, will the returning field bees unite with the swarm? I am wondering if any of the bees in the old hive on making their trips to the field would return to their original stand in any great numbers, if any at all.—R. L. McConnell, Va.

Answer: It is a fact that when the parent hive from which a swarm has issued is moved to a new location and the hive intended to contain the swarm is placed on the old location, or parent stand, most of the old bees, will return to the original location. Only the young bees will remain on the new stand. This method of handling swarms is advantageous in that a large force of bees is retained on the old stand for storing the maximum crop of honey. When swarming occurs relatively early in the season, the parent hive

moved to a new stand should build up sufficiently populous in bees to go into winter quarters.

### Painting Hives Occupied by Bees

Question: Can you paint a new bee hive with the bees in it?—John Dyer, Ohio.

Answer: It is perfectly possible to paint a hive containing bees. You can paint the sides, ends, and top during the day. It might be well to leave the front and entrance board until late in the evening, when bees are home. Bees will not object to your working near the hive so long as you do not interrupt their line of flight. The odor of the paint is not objectionable to the bees.

### How to Find All Queen Cells

Question: When and how do you cut the queen cells out to prevent swarming? —Mrs. Lucy N. Kabel, Pa.

Answer: To find queen cells in a colony during the swarming season, it is necessary to shake the bees from each comb of brood as it is removed temporarily from the brood chamber. When most of the bees are shaken off the comb, you can then see the queen cells quite plainly. Occasionally, a small cell will be tucked underneath the comb, so you must look carefully in order to find and destroy all of the queen cells. Of course, the bees are shaken into the hive and this can be easily done by giving each comb of brood a vigorous jerk or shake to dislodge the bees. During a bad swarming season it may be necessary to remove queen cells each week until the colonies give up swarming.

### Using Queen Excluders and Queen Traps

Question: I have five colonies of bees. All five have one full depth brood chamber. Three of the colonies are causing much trouble by swarming. On each three I have a queen excluder and one shallow super (pound sections) and above it one full-depth extracting super. I went through one of the hives and found seven queen cells over half developed which I removed. Is this the proper thing to do, and why are they doing this? This particular colony had swarmed several times before. I would catch the queen and the bees would return to the hive. I have put the supers on early in the spring. However, I did fail to remove the small board to give them full entrance to the hive until just recently. I thought of using a queen catcher, but I'm always half afraid to for fear the bees need another queen. And I imagine a young queen could not make her virgin flight with this queen catcher on.—Mrs. Earl Fender, Ohio.

Answer: Apparently you are having a honey flow in your locality. When honey comes in, especially at the beginning of the flow, it excites bees to swarming, particularly colonies that are restricted to a single brood chamber by means of a queen excluder. In your letter you mention not having removed the entrance reducer. This should have been done. Colonies need considerable ventilation on hot summer days. You speak of a queen catcher and no doubt you have reference to a queen and drone trap placed over the entrance of the hive. We do not advocate the use of this piece of equipment except when swarming is at its height and the owner of the bees is obliged to be away from his apiary during the middle of the day when swarms are likely to issue. When the owner returns in the evening he can tell from the appearance of the front of the hive whether or not the swarm has attempted to leave. If he finds the queen in the small compartment at the top of the queen trap, he knows the swarm has come out of the hive, but not being able to leave because of the queen being trapped, the swarm has returned to the hive. It is, of course, necessary to go through the brood chamber, destroy queen cells, remove some combs of brood and substitute drawn combs or full sheets of foundation to relieve congestion in the brood chamber. The combs of brood that are removed, possibly four or five, can be raised into a super above the queen excluder. If the queen is old and needs to be replaced, you can order a laying queen, or you can leave a ripe cell (which means a capped queen cell) in the brood chamber and in due time a young virgin queen will emerge and eventually go out to mate and later on start laying eggs.

Regarding the use of a queen excluder, it seems preferable to omit the use of this at the beginning of the main flow. The queen may go up into a few combs in the supers to lay eggs. However, this does no harm. When the flow actually gets under way, the queen may be put down into the brood chamber below the queen excluder. The small amount of brood that is in a few combs of the supers will attract the bees into the supers. As you mention, the continuous use of a queen trap may result in a colony becoming queenless because the virgin queen, not being able to pass out of the hive through the queen trap, will fail to mate and is likely to be killed eventually.

## What Are Beekeepers Doing for the Boys and Girls?

**By R. C. Sullivan, Charlotte, No. Car.**

The training of our boys and girls in good citizenship and high standards of living should hold a prominent place in the life of all adults, and I know of no group of people who have a greater opportunity to extend a helping hand to our youth than the Beekeepers of America and the World.

The question may be asked; In what way can beekeepers help? Can you find anywhere in anything a greater parallel to good government and clean, industrious living, than in that colony of honey bees sitting in your back yard? There you have the opportunity to sit down with a boy or girl and tell them of the life, and of the government as it is set up in the hive, and at the same time, guide the life of that boy or girl to accept the idea of cleaner living and cooperation in every way with their fellow-men.

Here in Mecklenburg County, North Carolina, in the City of Charlotte, I have designed and set up an observation hive in the Children's Nature Museum, which is sponsored by the Beekeepers of Mecklenburg County. We go there as often as possible to talk to the boys and girls about bees. It is surprising the response we get, and to see how the

**Mr. Sullivan and observation hive which he designed and built for the Children's Nature Museum, Charlotte, N. C.**

**Below: Author and children watching bees at the Childrens' Museum.**

boys and girls accept the truths that we are able to bring them through this work. I would like to suggest to beekeepers the world over, to give it a try also. We have also been instrumental in placing observation hives in some of our public schools.

I am inclosing with this article a letter from one of the school classes so you can see just what this work is doing for our youth.

So, as a beekeeper to all beekeepers, let's all pull together for our boys and girls, and the world will be a better place in which to live.

My Dear Mr. Sullivan:

I just wanted to tell you again how grateful we are to you for introducing our Nature Museum children to the fascinating study of Bees.

No other single exhibit in the Museum has held the continued interest of the children as has the observation hive which you installed in 1948, and I am sure the new one just completed will create even more.

We are happy that you have consented to sponser a Beekeepers' Club at the Museum. The announcement will be carried in the June bulletin.

Thank you again for all you have done for the children of Charlotte through the Nature Museum.

Most sincerely,
Laura E. Owens, Director

## Honey and Hay Fever

**By James Hurst, Parma, Ohio**

Honey cures hay fever? I make no such extravagant claim but I am firmly convinced that from what it has done for me it **could** help some one else. I care not for the fact that it is only a one-case history—brother, it's mine! If you ever had a severe cold when you couldn't get air through your nose; when it ran like a leaky faucet; when your eyes watered continuously and became encrusted over at night so you could not open them; when you were feverishly hot all over and jumpy nervous to boot; when your food tasted like old sawdust, and you sat up all night to get some sleep,—then you know what many. people go through every year.

That was my lot from age five on for over 30 years with only slightly lessening severity in adulthood until I became acquainted with bees. During that period of years my father being a druggist I had the benefit of many preparations as they made their appearance. Some gave partial temporary relief but the cause always lingered on from mid-August till late fall followed by a mild "cold" till well into winter.

One day I accompanied a friend to assist in packing his colonies for winter and his answers to my curious questions developed the germ of an idea. Since bees gather pollen, was it possible that by using nature's method of sustaining health in the body through food that I could build some resistance to this infection? Could I, through daily use of the proper honey substituted for sugar, put into my body a small amount of ragweed pollen that might build this resistance? My friend patiently explained that (1) bees do not work ragweed, and (2), little pollen, if any would remain in the honey after the extraction process. I pointed to some nearby goldenrod stalks upon which the bees were working and there alongside was a stalk of ragweed, and inquired how the ragweed pollen was distributed if not by bees and insects. Wind seemed to be the logical explanation and if that were so, surely some ragweed pollen **must** contact the adjacent goldenrod and thence into the hives. Having been a "fare paying" guinea pig for ideas of others for years I determined to try this one of my own. I secured the needed equipment that winter, installed packages the next spring, and by segregating frames (and beginner's luck!) secured goldenrod honey next fall. Since then it has been my only sugar or sweet.

**I Have No More Hay Fever!**

You may supply your own conclusions. I'm satisfied. I have bees and no hay fever. Limited time and city residence makes large production impossible for me to sponsor others to test their reactions. I offer these facts as no cure, but believe that with proper and honest manipulation of colonies and extraction (no heating and only cheesecloth filtering) coupled with truthful presentation of such an occurance may provide many others with this priceless relief.

## Our Cover Page

**Early Americana.** Depicting the story of the first settlers of America and bee hives of that period, this model has been restored at the famous Henry Ford Greenfield Village, Dearborn, Michigan.—Permission by The Edison Institute. Photo by Bob Milo.

# Just News

**The 1951 Annual Convention of the Washington State Beekeepers' Association** will be held in Seattle on November 26 and 27, in the Club Rooms of the Security Public Market, with broadcasts over KOL each day from 11:45 to 12:00 noon. Space will be available on both levels of the market where exhibitors will come in contact with the general public by the thousands daily, for all types of displays: bee literature; honey and beeswax; and bee equipment. These displays may remain there for the entire week. This market is in Seattle's best downtown retail business district.—A. M. Walrath, General Chairman.

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**The annual meeting of the Arkansas Beekeepers' Association** will be held in Little Rock at the Woman's City Club, 4th and Scott Streets, on November 5th and 6th.—Rea H. Davis, Sec.-Treas.

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**The Annual Meeting of the Iowa Beekeepers' Association** will be held at Ames on November 14 and 15. A special program of entertainment is being provided for the evening of November 14. Members are urged to consider the banquet of the Horticulture Society which takes place on the evening of November 15. At this meeting awards will be given to members of the Horticulture Society including the Beekeepers Association. This will be an important meeting for the association and everyone interested in the development of the industry in the state is urged to be in attendance.—F. B. Paddock, Extension Apiarist.

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**The Georgia Beekeepers' Association** meets in Tifton November 13 and 14. A worthwhile program is being arranged and a cordial invitation is extended to all.

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**The Montana State Beekeepers** will hold their 31st annual meeting at the Baxter Hotel, Bozeman, Montana, on Nov. 30 and Dec. 1, beginning at 9:30 A. M. The annual banquet will be held evening of Nov. 30. Pollination and its need to seed raisers and the best way of handling same, will be discussed, among many other topics.—Mrs. O. R. Burdett, Sec'y.

The annual meeting of the **California State Beekeepers' Association** will be held on the Davis campus of the College of Agriculture, University of California, on December 5, 6, and 7, starting at 9:30 a. m. This arrangement has been made possible by the completion of a new dormitory for men, making available dormitory space for a majority of those attending the convention. All meetings, and the banquet, will be held on the campus, and meals will be available either on the campus or at local restaurants. A large attendance is expected, and all persons interested in beekeeping are invited. The chief theme of the program will be "increased efficiency in beekeeping", with emphasis being placed on improved methods in production, honey processing, marketing, improved strains of bees, and in agricultural service. Space will be provided for the display of equipment by beekeepers or manufacturers. Reservations for display space and for rooms should be made by writing to Mr. F. L. Griffin, Public Service, University of California, Davis. In making reservations for rooms, please indicate whether you will want accomodations for man, or woman, or man and wife. Ample motel space is available within a few miles of Davis for those who prefer hotel accommodations. The dormitory rates probably will be $1.75 per night per individual.

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**The Westchester County Beekeepers' Association** will hold their regular monthly meeting on Sunday November 18th at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle, N. Y. at 2:30 P. M. The Annual Honey Exhibition will be held at this meeting. There will be 1st, 2nd, 3rd, and 4th prize ribbons awarded, also a Grand Prize, and prize ribbons for beeswax and section honey.

Judges will be: F. W. Gravely of New York City, I. J. Wellings of Stamford, Connecticut, and John F. Keller of New Rochelle, N. Y.—A. M. Barnes, Publicity.

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The new officers elected for the coming year for the **Macon County Beekeepers' Association** (Illinois) are: President, Ira J. Bowers, R. 7,

Decatur, Ill.; Vice President, C. H. Cushman, 1745 N. Church St., Decatur, Ill.; Sec.-Treas. J. W. Head, R. 6, Box 268, Decatur, Ill. November meeting will be held at the home of C. H. Cushman, 1745 N. Church St., Decatur, Ill. on Nov. 18th at 3:30 P. M. There will be moving pictures and question box.—J. W. Head, Sec.-Treas., Decatur, Ill.

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The regular monthly meeting of the **St. Clair Beekeepers' Association** was held in the Highway Building at Belleville, Illinois, on October 3rd at 8:00 P. M. Carl Killion, Chief Apiary Inspector, gave a good talk on inspection and showed some of his colored slides on comb honey production and of his hobby "Honey pots". Beekeepers present took part in a discussion of the subjects "Registration of Beekeepers" and "The use of Harmful Sprays and Insecticides". The next meeting will be held November 7th at the same place and hour.—L. M. Leiper, Program committee.

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**The annual convention of the Empire State Honey Producers' Association** will be held December 13th and 14th at Bibbins Hall, Ithaca, New York. The program has not been completed, but an interesting meeting is assured with some prominent out-of-state speakers.—Mrs. Edw. T. Cary, Secretary.

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At the recent meeting of the **Texas State Beekeepers' Association** at College Station the following officers were elected for the coming year: G. O. Stroope, Waxahachie, President; Stanley Weaver, Navasota, Vice President; L. A. M. Barnette, Bellaire, Secretary-Treasurer; D. C. Babcock, San Antonio, Executive Member at large in the state. The Association changed its by-laws and adopted the following: Membership dues for a minimum of $2.50 for one to 50 colonies and 50 colonies and over an additional charge of 5c per colony. The State is to retain $2.00 and the remaining amount is to be divided by the Executive Committee between the American Honey Institute and the American Beekeeping Federation.—D. C. Babcock, San Antonio, Texas.

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On October 1 Dr. J. A. Munro, State Entomologist for North Dakota, starts a two-year leave of absence from the North Dakota Agricultural College to accept the appointment of Entomologist on the ECA Point 4 program to Bolivia. His duties there will be to develop a program in entomological research and extension for that country. Mrs. Munro and daughter Jann Ann (12 years) will accompany him.

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**The Middlesex County Beekeepers' Association (Mass.)** held their first regular indoor meeting of the fall season on October 27th at the University of Massachusetts Experimental Station, Waltham, Mass. A large attendance of members and friends were present to partake of the buffet dinner prepared by the lady members. The eats consisted of casseroles of Boston baked beans, brown bread, escaloped potatoes, ham and spaghetti, homemade bread, comb and strained honey, ice cream and coffee. After the repast the regular business meeting was called to order by President A. J. Baptiste and reports of experiences were heard from various members. The hiving of two open hives built in the open branches of two adjacent trees was reported by Secretary Furber as this is quite uncommon in this part of the country. After the regular meeting color pictures of the meetings from the start of the "Club Hive" at the April 28th 1951 meeting of the outdoor meetings including special visits through to the September meeting when the "Club Hive" was won by member Mrs. Card of Billerica, Mass. These pictures include the cutting of comb built in the open or in boxes and tied into regular Langstroth frames and hived in the best beekeeping manner. The next regular indoor meeting is scheduled to be held in the Auditorium at the winter quarters of the Association at the University of Mass. Experimental Field Station in Waltham on November 24th at 8 PM to be preceded by a buffet dinner.—John H. Furber, Sec.-Treas.

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**W. Herrod-Hempsall** of Harpenden, England, passed on September 8 in his seventy-ninth year. In the passing of W. Herrod-Hempsall beekeepers in Great Britain have lost a man who has meant a great deal to beekeeping. For very many years Mr. W. Herrod-Hempsall edited the British Bee Journal, and also was directly in charge of beekeeping. Like all leaders and strong men Mr. Herrod-Hempsall had both enemies

(Continued on page 699)

# Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 15c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

## HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

NEW CROP of honey shipped daily from producer in Florida. Pure orange blossom, 5 lbs., $2.25; Pure Florida cut comb honey, 5 lb. pail, $2.75. No C.O.D. orders. All shipments prepaid. E. R. Raley, Daytona Beach, Florida.

ANY GRADE—Any amount. Alexander Co., 819 Reynolds, Toledo, Ohio.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 1.

IOWA honey. Extra white. Light amber. New cans. Truck lots. Russell D. Smalley, Beaver, Iowa.

NO. 1 section white clover comb honey. Engle Apiaries, Kearneysville. W. Va.

700 new 60's of delicious clover honey. Sample 20 cents. John Burghardt Apiaries, 1111 N. Franklin, New Ulm, Minn.

BUCKWHEAT AND GOLDENROD HONEY. Both in comb and extracted. Chas. P. Hatton, R. 1, Jefferson, Ohio.

FANCY CLOVER comb and extracted honey for sale in any quantity. Case Apiaries, Robert Case, 218 Bristol Street, Canandaigua, N. Y. Phone Canandaigua 552 R.

MICHIGAN Clover extracted. A can or a carload. Harris and Son, Saint Louis, Michigan.

CLOVER COMB HONEY, extra white. Some buckwheat comb honey. Roy Auxter, Tucker Rd., Fremont, Ohio.

COMB AND EXTRACTED HONEY for sale. C. W. Schrader, Waterville, N. Y.

NEW CROP HONEY—Finest table quality. Orange-palmetto, palmetto, and mangrove. $7.50 per 60 lb. can. $7.00 each for three or more cans. 10c per lb. in 55 gal. steel drums. All F.O.B. here. F. H. Nelson, Murdock, Fla.

HONEY FOR SALE: Custom packing and processing. Truck or car lots. Russell-Barnes Apiaries, Oakland, Nebraska.

HONEY, WHITE, predominantly clover, strained and heated, ready for bottling. Good clean honey in new sixties, 16c per lb. 5 sixties or more, 15c per lb. FOB Louisville, Ky. Lose Brothers, Inc., 206 E. Jefferson St., Louisville 2, Ky.

**STOLLER'S** fancy clover honey in new sixties. Stoller Honey Farm, Latty, Ohio.

## HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on COD terms except where the buyer has thoroughly established his credit with the seller.

CASH FOR YOUR HONEY — Light extracted or comb. Regular trade send sample. 60 lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

CASH FOR BEESWAX. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & Company, 1360 Produce St., Los Angeles 21, California.

ALL GRADES HONEY AND WAX WANTED—Mail samples, advise quantity and cash prices delivered to us. HONEY SALES COMPANY, 1808 NO. WASHINGTON AVE., MINNEAPOLIS 11, MINN.

CARLOADS or less of honey and wax. Send sample and price. Alexander Company, 819 Reynolds, Toledo, Ohio.

HONEY WANTED: Describe amount, quality and asking price. Russell-Barnes Apiaries, Oakland, Nebraska.

WANTED — White and amber honey. Any amount. D. F. Treap, R. D. 3, Box 222, Kent, Ohio.

WANTED—EXTRACTED HONEY — Clover or light amber. C. H. Denny, Rt. 4, Ravenna, Ohio.

HONEY AND WAX WANTED — Mail sample. Advise quantity. BRYANT & SAWYER, 2425 Hunter St., Los Angeles 21, California.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 No. High St., Columbus 2, Ohio.

BEFORE YOU SELL your clover honey contact us. Send samples and tell us how much you have. The Delaware White Clover Apiaries, 139 West William St., Delaware, Ohio.

WANTED—Aster honey. Send sample and price. Robt. W. Lane, Greeneville, Tenn.

WRITE FOR shipping tags and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 percent saving. Walter T. Kelley Co., Paducah, Kentucky.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

WANTED — Light honey in jars, and buckwheat in bulk. Eastern Food Products, 115 Division Ave., Brooklyn, N. Y.

WANTED — All grades of honey, one can to a carload. Send sample, state price in first letter. We exchange sixty lb. cans. Cash on delivery. Honeymoon Products Co., Box 85, River Rouge 18, Mich.

## FOR SALE

We carry a full line of ROOT QUALITY Bee Supplies. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation, Onsted, Mich.

The only comb foundation plant in the East. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, R. D. 3, Auburn, N. Y.

BEE SUPPLIES of all kinds. Catalog free. Hodgson Bee Supplies, Ltd., 565—13th Ave., New Westminster, B. C., Canada.

YOUR WAX WORKED into quality medium brood foundation for 23c pound; 100 pounds, $18.00. Fred Peterson, Alden, Iowa.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other Catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

BEE SUPPLIES—Tin packages; 10 sizes g'ass jars; paper shipping supplies; window cartons and other items. Roscoe F. Wixson, Dundee, N. Y.

PROTECT STORED COMBS from moth damage with Tritox Moth Crystals. Circular prices. Write Tritox Chemical Co., Washington, Indiana.

FOR SALE — 450 colonies. Write M. H. Neill. Box 233, Healdsburg, Calif.

FOR SALE — 250 colonies of bees and equipment 8 and 10 frame size. No disease. Verner J. Peterson, East Stanwood, Wash.

FOR SALE — Five colonies Italian bees, four single-walled and one double-walled hive and stands, each with two deep brood bodies. Equipment for proper handling, practically all new and in excellent condition. Colonies inspected. Will go to the highest bidder who takes all including this season's honey crop still on. Howard T. Mailey, 58 Salem St., Andover, Mass.

FOR SALE: 1 to 2000 5⅜ inch 10-frame shallow extracting supers, 9 combs, excellent condition; 500 tops and bottoms, new condition, migratory style; 250 10-frame standard hives, 9 combs, top and bottom, disease free; 3 H.P. high pressure steam boiler, automatic oil burner; Root power uncapper; 6 electric fence units. Any reasonable offer accepted for any part for cash or white honey. Herbert J. States, States Apiaries, Saratoga, Wyo.

FOR SALE: 700 colonies bees 10-frame two-story, at $12.50 each at yard run, including about 25 locations. The finest locations in the south for queen and package business. W. A. Wiley, 65 Commerce St., West Point, Miss.


**HONEY LABELS**
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
**C. W. AEPPLER COMPANY**
Oconomowoc, Wisconsin

**Michigan Headquarters for**
Root QUALITY
**Bee Supplies**
Complete Line of Bee Supplies and Honey Containers
Prompt Service
**Michigan Bee and Farm Supply**
510 N. Cedar St.
Box 7 Lansing, Michigan

**Wisc. No. 1 White Honey**
100% Pure Filtered
Write for future information.
**Fox Valley Apiaries**
DePere, Wisconsin

**HONEY WANTED**
Carloads and less than carloads. Mail sample and best prices in all grades.
**C. W. AEPPLER COMPANY**
Oconomowoc, Wisconsin

**Queens Our Specialty**

**Italian, Caucasian, and Carniolans**

Three Isolated Mating Yards to Prevent Mixing Breeds

| | |
|---|---|
| ITALIANS | $0.90 each |
| Caucasians | 1.00 each |
| Carniolans | 1.25 each |

Italian queens after June 1st, 60c each, any number.

All Queens shipped by Air Mail and guaranteed to please.

**Walter D. Leverette Apiaries**

Box 364 Fort Pierce, Florida

**LADYLIKE CAUCASIAN**

Bees and queens for 1952. Prices available about January 1st. Book orders early to avoid disappointment.

**Caucasian Apiaries**

Castleberry, Ala.

**KNIGHT'S**

3-Banded Leather Colored Italian Bees and Queens

Prompt Service

Full Weight Packages

Young Laying Queens

Your Satisfaction Guaranteed

No Charge for Clipping

**JOHN T. KNIGHT**

HAYNEVILLE, ALA.

**High Quality Italian Queens**

by Air Mail

75c each

10 or more, 65c each.

Carlus T. Harper, New Brockton, Ala.


## BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

Three Banded Italian bees and queens for 1952. Alamance Bee Co. Graham, N. C.

CAUCASIANS—Booking orders for 1952. Lewis & Tillery Bee Co., Route 1, Box 280, Greenville, Ala.

BEES FOR SALE AND LEASE—Montana, Wyoming, Idaho, Nebraska. Contact Bradshaw & Sons, Wendell, Idaho.

YANCEY HUSTLERS, Three-band Italians—bred for business. Select queens, $1.00 each; $8.00 per dozen. Guaranteed to please. Caney Valley Apiaries, 2500 Nicholas, Bay City, Texas.

SHORT'S QUEENS ARE GOOD QUEENS. Try them and you will find their colonies tops in production, gentleness and freedom from diseases. Three-banded Italians only. Used by leading honey producers for more than 30 years. Requeen now for maximum production next year. $1.00 each; 10, $9.00; 25, $20.00. Postpaid. Prompt shipment. H. C. Short, Fitzpatrick, Ala.

## SEEDS

HONEY PLANTS — Free catalogue. MEADOW SAGE seedlings, special, November orders: 12, $1.00; 100, $3.75; postpaid. EVERFLOWERING LOCUST, strong 5 to 7 foot trees, each, $3.95; three, $7.50; express. Pellett Gardens, Atlantic, Iowa.

## POSITION WANTED

WANT work in South, November to April. 12 year's experience honey production, three years queen and package bees. References. R. L. Livermore, Belle Center, Ohio.

## WANTED

WANTED—Brand capping melter. Warren Moore, Naples, New York.

WANTED — Standard depth 10-frame supers, frames, bottoms, metal top telescope covers, new material. Nealey Honey Co., Aberdeen, Idaho.

## MISCELLANEOUS

IF YOU DESIRE to buy or lease bees for pollination or honey production, write for particulars. Will deliver in quantities. Baughn Stone, Idabel, Okla.

## MAGAZINES

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.50; two years, $2.25; three years, $3.00. In combination with Gleanings in Bee Culture, $2.75. 211 Affleck Bldg., Winnipeg, Canada.

THE BEE WORLD, international and scientific journal on bees and beekeeping, with apicultural abstracts. Monthly, including membership in the Apis club, $1.75 per annum. Specimen copy 12c U. S. postage stamps, from The Secretary, The Way's End, Foxton, Royston, Herts, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3306, Cape Town, South Africa.

KNOW interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh, Dist. Naini Tal, U. P., India, or available through them. Subs. Rs7/ or 10 shillings or 2.25 dollars per annum. Single copy, Rs ¼s. 1/9 or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

## ANGORA GOATS

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription $1.00. Sample copy fifteen cents.

## JUST NEWS

(Continued from page 695)

and friends. His enemies will respect him for the splendid work he did during his lifetime, and his friends will remember and miss that very strong friendship which is possible with a leader and a strong character. The name of W. Herrod-Hempsall will always be a household word among beekeepers in Great Britain as the name of Dr. Miller, Dr. Phillips, and similar leaders in our cult are household words in this country among the beekeeping fraternity.

* * * * *

**The 13th International Beekeeping Conference** held in the British Isles during September was generally agreed to be one of the most successful of the many held in various parts of the world. The success of the Conference without doubt was due to the very fine work of Miss Nancy Ironside as Honorable Organizing Secretary, also the splendid work of Dr. R. H. Barnes as President, and the British Organizing Committee. The finances were cared for by Mr. D. S. Hudson, Honorable Treasurer. Over 30 countries were represented. The beekeepers of the United States will appreciate the silent pause during a busy day given by the Congress to the passing of Dr. E. F. Phillips and Mr. Frank Pellett, two names which will always live in the minds not only of American beekeepers, but beekeepers in all parts of the world. No definite plans were made for the International Meeting in 1953, but it was the general opinion that it would be held in one of the Scandinavian countries.—C. G. Tollafield.

* * * * *

**The Illinois Beekeepers Association** will meet November 9 and 10 at St. Nicholas Hotel, Springfield. A cordial invitation to all.


Your choice of Two Outstanding Strains:

| Queens: | "Magnolia State" Italians | Dadant "Starline" D. R. Hybrids |
|---|---|---|
| 1-24 | 95c each | $1.20 each |
| 25-99 | 85c each | 1.10 each |
| 100-up | 75c each | 1.00 each |

Clipped and Marked Free

**Jensen's Apiaries**
Macon, Mississippi

**QUEENS**
**YORK'S QUALITY BRED ITALIAN QUEENS**
The Strain that Leading Honey Producers Prefer

| 1 to 24 | 25 to 99 | 100 up |
|---|---|---|
| $1.00 each | 85c each | 75c each |

None better regardless of price

**York Bee Co.**
Jesup, Georgia
(The Universal Apiaries)

**Please Write Us**
About bees and queens for 1952
**J. F. McVay**
Jackson, Alabama

**SUNKIST**
Light colored Italians or Kelley's Island queens.
Airmailed - postpaid - clipped, each, ..... 65c
**Sunkist Bee Company**
Convent, La.

**John M. Davis Strain Italian Queens**

| 1-24 | 24-up |
|---|---|
| $1.25 | $1.20 |

Daughters of ABBA Tested Stock

| 1-24 | 24-up |
|---|---|
| $1.50 | $1.40 |

**LITTLE APIARIES**
Shelbyville, Tenn. P.O. Box 122

**Package Bees and Queens**
**Jackson Apiaries**
**Funston, Georgia**

Book early for those—1952—personal reared Caucasian queens.
**Howard Weaver**
Navasota, Texas

**NEED A QUEEN?**
We have them, Northern Bred and full of VIM, VIGOR, and VITALITY. Held in strong nuclei for all late comers.
1-9, $1.00 each; 10-24, 90c; 25-99, 80c; 100, 75c each.
**White Pine Bee Farms**
**Rockton, Pa.**

**3-banded Italian**

| | |
|---|---|
| Queens | $1.00 |
| 2-lb. pkg. with qn. | 3.00 |
| 3-lb. pkg. with qn. | 4.00 |

**W. E. PLANT**
**Hattiesburg, Rt. 2, Miss.**

**KOEHNEN'S**
**Package Bees and Queens**
**For Quality and Service**
**KOEHNEN'S APIARIES**
**GLENN, CALIFORNIA**

**1876 1951**
Our 1951 crop of Michigan clover honey should be ready for the market in July. Dealer: if you want clover honey of the best quality, get on our mailing list, and we will keep you advised on crop conditions, and prices for the coming season.
Address E. D. Townsend & Sons, Northstar, Michigan. The BEST known name in HONEY PRODUCTION.

Canada's
National Monthly Magazine
for Beekeepers
**Canadian Bee Journal**
54 Bloor St. W., Toronto 5, Ont.
U. S. Subscription Price,
only $1.75 per year.

## JAMAICA BEEKEEPING 50 Years After

(Continued from page 659)

again as the dawn approached, but with the light the music diminished until at daybreak only a few straggling bees remained in evidence. The same thing happened again and again during the month. This seemed to be the situation: During the night a huge cluster of palm blossoms filled to overflowing with nectar. "To the early bird the worm", so before daybreak soared in the busy throng. By sunrise the nectar chalices were exhausted and laden with their provender the honeyed hosts went homeward bound. This is my first and only experience of bees working in the night.

A second thing that impressed me, and sadly "fifty years after", was the hushed rumor that foul brood had found its way into the Island. Such a thing as foul brood was unknown during my time. The only disease then known was bee paralysis and that was usually cured by requeening and exchanging places between the sick and a strong, vigorous colony. Concerning foul brood this was the story told to me: During World War I a ship loaded with Cuban honey anchored by a pier in Kingston Harbor. On deck a cask of honey broke. Before long the deck of that ship swarmed with bees from surrounding apiaries. The spilled honey disappeared and in those apiaries the foul brood blossomed. Vigorous measures I understand were taken by the government. At nights, they tell, the landscape was lighted by the flames of burning apiaries. Some say the disease has been stamped out. Others whisper that it periodically recurs.

Yet to me the most impressive thing "fifty years after" was the perpetuity of influence. The Norwegians say of a man when he is dead, "He has passed out of the story." When one reaches my age such a prospect is not reassuring. But is it true? For all practical purposes I have been dead to Jamaica for half a century; yet have I there "passed out of the story"? I go back to my old haunts to find beekeeping continuing in my parish. Why? Of the men I trained 50 years ago—two or three of these, old men now, are still carrying on. The rest are gone; but the new crop of api-

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arists, where did they come from? Tracing the lineage of a number of these I found they were started by the men I taught. Now they in turn are teaching others. Thus a fourth generation is on its way. No: I have not passed out of the story. And what of A. I. Root and Doolittle and Miller? Perhaps if we could trace the lingering and enlarging influences of our lives as they shall appear long after we are gone we should now realize how meaningful the seeming commonplaces which blend to make the pattern of our passing years.

* * * * *

## BEE LINES TO THE EDITOR

(Continued from page 644)

ous products of honey and how it is extracted, etc.

"I think Gleanings is doing a wonderful job of pushing our product to the fore and urging the beekeepers on, so let's see the beekeepers do something themselves, as we all agree that we have a wonderful product, it can't be beat, but others don't know it."—A. O., Ohio.

* * * * *

"I was amused at the comments on page 636 by S.H.B., Indiana.

"It was still one colony, headed by one queen even though they occupied two hive bodies. The same would hold true if the bees occupied six hive bodies or a piano box, providing they were not operated as a two-queen hive.

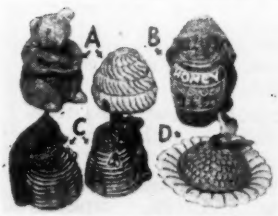
"Now let us count bean pods, we are not going backwards when we try to produce more pods than our neighbor. It is progress when we find new ways and means to increase production.

"I now am doubtful about the report by Mr. S.H.B. The man he refers to must have done just a wee bit of coddling and expert attention. Any beekeeper who requeens every year is perhaps coddling some. Any one who produces 168 sections per colony is not doing it accidentally. Shall we continue to count honey sections or bean pods or just say ho, hum, a cow can't give white milk, because she eats green grass."—C. E. K., Ills.

• • • • •

**Late News**—The meeting place for the California State Beekeepers' Association scheduled for Dec. 5, 6, and 7 has been changed from Davis to Sacramento.


**Dandy Xmas Gifts**




A. BEAR & HONEY skep salt and pepper. Finest pottery. $1.25 pr.; 3 prs., $2.95. B. Bear in honey pot, paper weight or ornament, $1.15; 3 for $2.75. C. Cubs with honey skeps. Salt and Pepper. Hard, glazed finish. $1.00 pr.; 3 prs., $2.40. 1 doz. prs., $6.75. D. Bee on sunflower. Flower separates forming salt and pepper. $1.25 set; 3 sets, $2.95, PREPAID.

**TONTZ HONEY FARM**
Dept. GC, Elsinore, Calif.

**Package Bees and Queens for 1952**

Best Quality Italians Only.

Order early.

**Geo. A. Hummer & Sons**
**Prairie Point, Miss.**
Est. 1892

**CAUCASIANS**
**CARNIOLANS**

The 1951 queen and package season is over. Thanks to our many customers. * * Preparing to produce some more and better queens season of 1952, - - early next season in Florida and later in New Jersey.

**Albert G. Hann**
Glen Gardner, New Jersey

**Healthy Italian Bees & Queens**
Write for 1952 Prices
**Georgia Bee & Honey Apiaries**
P. O. Box 312 Hortense, Ga.


## HONEY HOUSE SUGGESTIONS

(Continued from page 688)

It is therefore good business for the Bee & Honey Industry to work with the Food Inspection Service in suggesting a Uniform Sanitation Code for Honey Handling.

Honey is hydroscopic. This being the case, it is a very barren media for the growth of bacteria. Many different varieties of disease bacteria just cannot exist in honey. The Sanitation Code is then more important to our Industry as a means of raising the quality of all Honey.

## 3-WAY HYBRID QUEENS

Requeen your colonies with the queens developed on Kelley's Island, Ohio.

We have recently received new breeder queens and plan to have queens available all fall.

Do not confuse these queens with other hybrids. Specify Kelley's Island 3-Way Hybrid or Regular stock postpaid.

| | |
|---|---|
| 1-26 ..... | $1.00 each |
| 26-100 ..... | .90 each |
| 100-up ..... | .85 each |

We wish to thank our many customers for the nice business given us this spring. If you were pleased, tell others, if not, tell us. It is our desire to please.

**Rossman & Long**

**P. O. Box 133, Moultrie, Ga.**

---

If you are taking time to read, why not read the best? Condensed to save you time. Illustrated to give you pleasure.

**Modern Beekeeping**
**The Picture Bee Magazine**
Box 210 Paducah, Kentucky

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**BRITISH BEE JOURNAL**
**The Only WEEKLY Bee Journal in the World**
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**Gleanings in Bee Culture**

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We Have Nothing to Sell But a Good Bee Journal
**BEEKEEPERS MAGAZINE**
**Lansing 17, Michigan**
Fourteenth Year of Publication
**One Year, $2.00**
**Three Years, $5.00**
Sample copy mailed upon request


## AMERICAN HONEY INSTITUTE NEWS NOTES

(Continued from page 671)

How well man might benefit from such a standard! Man's place in the universe, and in his own world community would be just as secure as the honey bee's if he practiced such high ethics in community living. Atomic bombs, world wars, germ warfare would be obsolete terms. Life would be more serene, certain.

**But man must go one step farther than the honey bee.** For he lives also within his own "common-interest" community. Man is unique in that he has the chance to choose the job he will do during his lifetime; it is not automatically assigned to him as it is to the honey bee. And because of this choice, all men do not work at the same job. Instead, each does what he is interested in.

Thus he quickly associates himself with others who have the same interests.

Beekeepers, for instance, are not drawn to brick layers or welders. But they are to other beekeepers. A common interest binds them into their own community. It is in this special community that mankind must apply the lesson of the honey bee, the lessons of industry and cooperation.

Although I was far from big city life, I felt the interweaving of the city and the country now. For it was to the big cities that beekeepers came to take part in their special community of honey affairs. To conventions, state and national, to bee supply houses, to big markets, to the offices of their state associations, and of the American Honey Institute the beekeepers came, searching for a way to better their common community.

It is certain that they found what they were looking for at the American Honey Institute. I could not help but think that the Institute was founded with the right motive, with the right idea. To have a formal, official way of expressing good will among all beekeepers, that is why the Institute exists. To have a way of offering common help to all beekeepers, that is the function of the Institute. To consolidate the efforts of all beekeepers to promote their honey, that is the aim of the Institute.

I would not be foolish enough to

(Continued on next page)

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claim that the Institute has done a 100 percent job of completing these aims. That would be to claim perfection, and no man in his right senses would make such a claim.

But I knew the Institute had drawn closer to its goals than at any time in the past.

I knew that it was right for the Institute to exist as a generator of community spirit among beekeepers. Just as right as it was for the ants to work together in their ant hill. Just as right as it was for the honey bees to belong to their hives.

I knew such an organization as the Institute was created because beekeepers recognized their role in their common community, in their world community, in the community of the universe—and wanted to play their role well.

And I leaned back into the tall grass and knew that they would.

* * * * *

## WINTERING IN QUADRUPLE CASES

(Continued on page 651)

invested in a cheap contraption would be more profitable than $25. or more for the same four colonies, if results were as good. So being a hater of tar paper, I obtained some few rolls of waterproof asphalt building paper. It is 36 inches wide strong and tough, and I built a lot of simple slatted frames for case sides and ends and put two layers of this paper on what was to be inside the panels. A 1 inch by 1 inch stick at each end was nailed to the panel framework at the exact spot on the sides and ends so a 2½ x ¼ inch bolt in the centre of the 1 inch by 1 inch sticks on the sides, slipped through a hole in the matching strip on the ends. Bolts were tightened and the case was set up.

Covers for these cases cost more, being built of cedar ship lap nailed to 1¼ inch by 2 inch strips, and covered with good roofing paper. But these covers serve two purposes. They make fine summer windbreak fences, and they are just as well preserved there as when piled up over summer.

The paper case linings last here easily two winters in waterproof condition, and the paper is easily renewed. The panels I made ten or twelve years ago await their third lining now, but the picture shows what they are doing over summer.

As to wintering results — pretty fairly good, and more than equal to any other methods I have used.


**BETTER HURRY!**

RUSH those orders for Caucasian or Italian Queens in right away and we will rush them right back to you. Late fall is a good time to requeen.

-Prices-

| | |
|---|---|
| 1 - 24 | $ .75 each |
| 25 - 99 | .70 each |
| 100- Up | .60 each |
| Tested Queens | 1.50 each |

Airmailed and/or Clipped
No Extra Cost

**The Stover Apiaries**

**Mayhew, Miss.**

Australasian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
**"AUSTRALASIAN BEEKEEPER"**
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Keep up on markets, practices, scientific data, regulations, and plant possibilities.
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